

DEPARTMENT OF
PLANT AND STRUCTURES
CITY OF NEW YORK



REPORT FOR THE YEAR
1934

F. J. H. KRACKE
Commissioner

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Plant and Structures



HON. F. H. LaGUARDIA
Mayor of the City of New York

DEPARTMENT OF
PLANT AND STRUCTURES
CITY OF NEW YORK

ANNUAL REPORT



YEAR ENDED DECEMBER 31, 1934

F. J. H. KRACKE
Commissioner

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ACTIVITIES OF THE DEPT. OF PLANT & STRUCTURES 1934

F.J.H. KRACKE COMMISSIONER.

BRIDGES

BROOKLYN
MANHATTAN
WILLIAMSBURG
QUEENSBORO
WILLIS AVE.
THIRD AVE.
MADISON AVE.
145" STREET
MACOMBS DAM
N.Y. & PUTNAM
WASHINGTON
UNIVERSITY HEIGHTS
SHIP CANAL

135" STREET
WESTCHESTER AVE.
UNIONPORT
PELHAM
CITY ISLAND
EASTCHESTER
HAMILTON AVE.
NINTH ST
THIRD ST.
CARROLL ST.
UNION ST
WASHINGTON AVE.
METROPOLITAN AVE.

HARWAY AVE.
THIRD AVE. DELTA
OCEAN AVE.
LEMON CREEK
FRESH KILLS
VERNON AVE.
GREENPOINT AVE.
MEEKER AVE
GRAND ST.
BORDEN AVE.
FLUSHING
STRONGS CAUSEWAY
LITTLE NECK

HUNTERS POINT AVE.
HOOK CREEK CANAL
HOOK CREEK
BEACH CHANNEL
NORTH "
ROOSEVELT AVE.
NOLINS AVE.
HAWTREE BASIN
ALLEY CREEK
STILLWELL AVE.
EAST 174" ST.
EASTERN BLVD.

VIADUCTS

155" STREET

RIVERSIDE DRIVE NO. 1 & NO. 2

PARK AVENUE

FERRIES

ASTORIA
HAMILTON AVENUE
COLLEGE POINT

ST. GEORGE S.I.
38" ST. B'KLYN TO "
38" ST. " " MAN.
ROCKAWAY BEACH

FERRY SERVICE TO INSTITUTIONS
RANDALL'S ISLAND
WELFARE "
RIKERS "
HARTS "
NO. BROTHERS "

WNYC MUNICIPAL BROADCASTING STATION

CULTURAL MUSIC

EDUCATIONAL HELP

CIVIC INFORMATION

CENTRAL MOTOR REPAIR SHOP

REPAIRS TO MOTOR VEHICLES

MUNICIPAL GARAGE

TAXICAB SERVICE

BUS LINES

INSPECTION FOR CITY OF BUSES OPERATED UNDER FRANCHISE,
OR PENDING AWARD OF FRANCHISE

CONSTRUCTION WORK DURING YEAR

CONSTRUCTION OF DOCK & ROADWAY, ST. GEORGE, S.I.
WIDENING VIADUCT APPROACH, " "

PROPOSED RECONSTRUCTION WORK

| | | |
|--------------------------|--|---|
| BROOKLYN BRIDGE | REMOVAL OF EXTENSION OVER PARK ROW | REPLACEMENT OF MAIN BRIDGE SUPERSTRUCTURE |
| MANHATTAN " | NEW FLOORS AND PAVEMENTS ON ROADWAYS | |
| WILLIAMSBURG " | NEW ROADWAY - NEW FLOORS AND PAVEMENTS ON EXISTING ROADWAYS | |
| QUEENSBORO " | COMPLETION OF ATTICS AT PIERS - NEW FLOORS AND PAVEMENTS ON ROADWAYS | |
| MACOMBS DAM " | RECONSTRUCTION OF FLOOR AND PAVEMENT | |
| WILLIS AVENUE " | " " " " " " | |
| CROTON WATERSHED BRIDGES | | |

PROPOSED NEW BRIDGES

| | |
|-----------------------|--------------------------------|
| WASHINGTON AVENUE | WESTCHESTER AVENUE |
| MEEKER " | OCEAN " |
| BEACH CHANNEL | DOUBLE WIDTH OF PRESENT BRIDGE |
| PARK AVENUE EXTENSION | OVER HARLEM RIVER |

ACTIVITIES CHART

March 15, 1935

HON. F. H. LAGUARDIA
Mayor, City of New York
City Hall
New York, New York

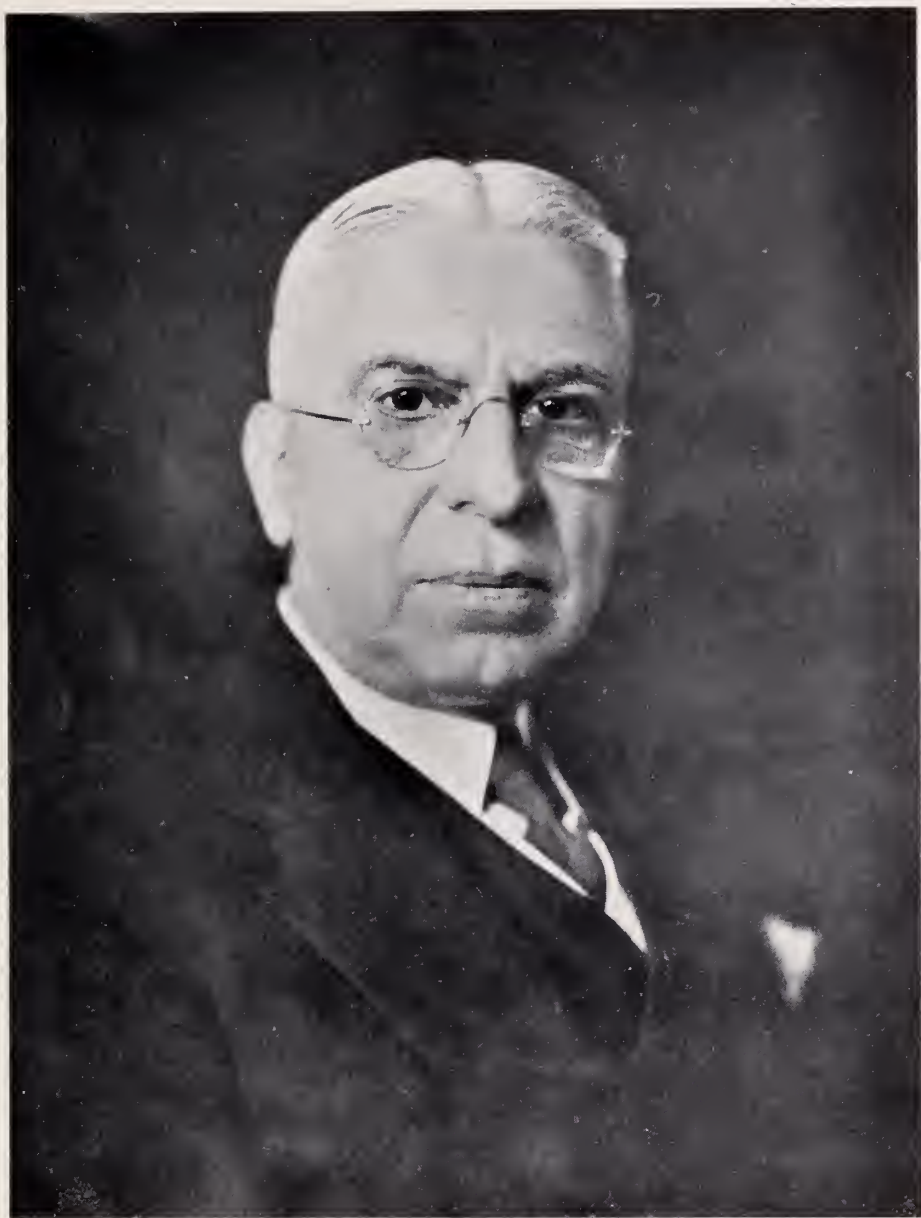
DEAR MR. MAYOR:

In accordance with the provisions of the Greater New York Charter, the Annual Report of the accomplishments of the Department of Plant and Structures for the year ending December 31st, 1934 is herewith respectfully submitted.

The scope of the work of this Department is reflected in the "Activities Chart—Year 1934," to which your attention is respectfully invited.

Respectfully,

F. J. H. KRACKE
Commissioner



HON. F. J. H. KRACKE
Commissioner

BUREAU OF BRIDGES

BRIDGES AND VIADUCTS UNDER THE JURISDICTION OF THE DEPT. OF PLANT AND STRUCTURES

| No. | Name | Water Crossing | Location and Terminals | | Type of Bridge | Length of Bridge and Approaches | Max. Span. | Clear Height Above MHW | Minimum Vertical Roadway Clearance | Traffic Facilities | | | | No. of Ch'n'ls. | Width of Channel Openings | Date Opened to Traffic | Cost of Construction | Cost of Land | Total Cost |
|--------|-----------------------|-------------------------------|---|--------------------|----------------|---------------------------------|------------|------------------------|---|--------------------|------------------|-------------------------------|-------------------|-----------------|---------------------------|------------------------|----------------------|------------------|-----------------|
| | | | | | | | | | | Elevated or Subway | Surface Tracks-g | Roadway | Footwalks | | | | | | |
| 1 | Brooklyn | East River | Park Row near Frankfort St. Sands and Washington Sts. | Manhattan Brooklyn | Suspension | 6016' | 1595.5' | e 133' | 14'-0" N. Roadway 13'-7 1/4" S. Roadway | 2 | 2 | 2-16'- 9" | 1-15'-7" | 1 | 1508.5' | May 24, 1883 | \$17,909,412.44 | \$7,185,165.00 | \$25,094,577.44 |
| 2 | Manhattan | " " | Canal St. and Bowery Nassau St. & Flatbush Ave. Ext. | Manhattan Brooklyn | " | 6855 | 1470 | d 135 | 19' at 12' from Ctr. 11'-9" near Curb | 4 | | 1-35'- 0" 1-23'- 6" 1-22'- 6" | 2-13'-7" | 1 | 1230.25 | Dec. 31, 1909 | 17,647,223.94 | 14,386,516.40 | 32,033,740.34 |
| 3 | Williamsburg | " " | Clinton & Delancey Sts. Broadway & New St. | Manhattan Brooklyn | " | 7308 | 1600 | d 135 | 14'-0 at 2' from Curb 13'-0" at Curb | 2 | h 4 | 2-19'-11" | 1-17'-8" | 1 | 1517 | Dec. 19, 1903 | 15,155,889.79 | 9,096,593.67 | 24,252,483.46 |
| 4 | Queensboro | " " | 2nd Ave. and 59th St. Crescent St. & Bridge Plaza N.&S. | Manhattan Queens | Cantilever | 7449 | 1182 | d 135 | 13'-6" 12'-0" at Curb | 2 | h 2 | 1-50'-10" 1-22'- 6" | 1- 9'-9" | 1 1 | 938 793 | Mar. 30, 1909 | 14,874,027.38 | 5,889,935.16 | 20,763,962.54 |
| 5 | Willis Ave. | Harlem River | First Ave. Willis Ave. | Manhattan Bronx | Swing | 3212.5 | 304 | 25.1 | 14'-10" min. at Curb | | 2 | 1-42'- 0" | 2- 9'-0" | 2 | 108 | Aug. 22, 1901 | 1,655,515.11 | 803,988.37 | 2,459,503.48 |
| 6 | Third Ave. | " " | Third Ave. | Manhattan Bronx | " | 2228 | 300 | 25.8 | 15'-1 1/2" | | 2 | 3-16'-11" | 2- 9'-0" | 2 | 100 | Aug. 1, 1898 | 1,783,411.82 | 2,213,664.64 | 3,997,076.46 |
| 7 | Madison Ave. | " " | Madison Ave. East 138th St. | Manhattan Bronx | " | 1892 | 300 | 25 | 16'-3" | | 2 | 2-27'- 0" | 2- 9'-0" | 2 | 104 | July 18, 1910 | 1,506,475.84 | 633,547.12 | 2,140,022.96 |
| 8 | 145th St. | " " | West 145th St. East 149th St. | Manhattan Bronx | " | 1603 | 300 | 25.2 | 14'-6" | | 2 | 2-27'- 0" | 2- 9'-0" | 2 | 104 | Aug. 24, 1905 | 1,735,134.08 | 1,007,737.91 | 2,742,871.99 |
| 9 | Macombs Dam | " " | West 155th St. Jerome Ave. | Manhattan Bronx | " | 2540 | 408.5 | 29.2 | 16'-6" | | 2 | 1-40'- 0" | 2- 9'-8 3/4" | 2 | 165 | May 1, 1895 | 1,366,532.37 | 407,517.24 | 1,774,049.61 |
| (a) 10 | N. Y. & Putnam | " " | 158th St. and 8th Ave. Sedgwick Ave. | Manhattan Bronx | " | e 525 | | | No Roadway | | | 1- 7'-6" | | | Sept. 1892 | 4,887.00 | No Prop. Acq. | 4,887.00 | |
| 11 | Washington | " " | West 181st St. University Ave. | Manhattan Bronx | Steel Arch | 2375 | 508.8 | e 133.5 | 17'- 4" | | 2 | 1-64'- 6" | 2- 7'-9" | 1 | 400 | Dec. 1888 | 2,851,684.55 | 37,901.78 | 2,889,586.33 |
| 12 | University Heights | " " | West 207th St. West Fordham Road | Manhattan Bronx | Swing | 1582 | 264.5 | 25 | 14'-11" | | 2 | 1-33'- 6" | 2- 5'-8" | 2 | 100 | Jan. 8, 1908 | 986,854.62 | 195,927.30 | 1,182,781.92 |
| 13 | Ship Canal | " " | Broadway near 225th St. | Manhattan | " | 557 | 265.5 | 24.7 | 13'- 0" | 2 | 2 | 1-34'-10" | 2- 5'-4 1/2" | 2 | 104 | June 17, 1905 | 782,416.85 | 36,555.09 | 818,971.94 |
| 17 | 135th Street | Mott Haven Canal | East 135th St. | Bronx | Bascule | 58.9 | 33.75 | 6.5 | Unlimited | | | 1-42'- 0" | 2-11'-2" | 1 | 25 | Aug. 15, 1902 | 31,973.31 | No Prop. Acq. | 31,973.31 |
| 18 | Westchester Ave. | Bronx River | Westchester Ave. | " | Retractable | 153 | 52 | 17.3 | " | | 2 | 1-46'- 0" | 2- 7'-0" | 1 | 40 | Apr. 1905 | 101,284.46 | 333,030.53 | 434,314.99 |
| 19 | Unionport | Westchester Creek | Eastern Boulevard | " | Bascule | 176 | 75 | f 13.6 | " | | | 1-40'- 0" | 2- 8'-3" | 1 | 60 | Aug. 1, 1918 | 215,738.57 | No Prop. Acq. | 215,738.57 |
| 20 | Pelham | Eastchester Bay | Eastern Boulevard Pelham Bridge Road | " | " | 1900 | 80 | f 17.5 | " | | | 1-34'- 0" | 2- 7'-6" | 1 | 60 | Oct. 15, 1908 | 605,274.06 | " | 605,274.06 |
| 21 | City Island | Pelham Bay Narrows | City Island Road City Island Ave. | " | Swing | 1672 | 164.75 | 12.3 | 15'-0" | | | 1-32'- 7" | 2- 6'-4 1/2" | 2 | 54.3 | July 4, 1901 | 247,923.45 | 26,398.34 | 274,321.79 |
| 22 | Eastchester | Eastchester Creek | Boston Road | " | Bascule | 292 | 127.67 | e 12.5 | Unlimited | | | 1-53'- 0" | 2- 8'-6" | 1 | 75 | Apr. 8, 1922 | 583,782.25 | Property Donated | 583,782.25 |
| 23 | Hamilton Ave. | Gowanus Canal | Hamilton Ave. | Brooklyn | " | 242 | 60 | f 17 | 18'-6" | | 2 | 1-35'- 0" | 2- 6'-0" | 1 | 46.5 | Mar. 4, 1905 | 187,680.96 | 291,066.82 | 478,747.78 |
| 24 | Ninth St. | " " | Ninth St. | " | " | 109 | 56 | f 7.3 | 18'-5 1/2" | | 2 | 1-35'- 0" | 2- 6'-0" | 1 | 45.2 | July 13, 1905 | 86,583.26 | No Prop. Acq. | 86,583.26 |
| 25 | Third St. | " " | Third St. | " | " | 360 | 56 | f 7.3 | Unlimited | | | 1-30'- 0" | 2- 8'-0" | 1 | 40.4 | Mar. 31, 1905 | 99,099.03 | 89,298.02 | 188,397.05 |
| 26 | Carroll St. | " " | Carroll St. | " | Retractable | 165 | 45.2 | 3.5 | 13'-10" | | | 1-17'- 0" | 2- 3'-7" | 1 | 36.0 | 1889 | 32,242.58 | 4,500.00 | 36,742.58 |
| 27 | Union St. | " " | Union St. | " | Bascule | 109 | 56 | f 8.3 | 18'-6" | | 2 | 1-35'- 0" | 2- 6'-0" | 1 | 43.5 | Mar. 4, 1905 | 85,406.85 | No Prop. Acq. | 85,406.85 |
| (q) 28 | Washington Ave. | Wallabout Canal | Washington Ave. | " | Bascule | 443 | 54.75 | 5.57 | 17'-6" | | 2 | 1-53'- 0" | 2- 6'-8" | 1 | 40.0 | " | 400,000.00 | " | 400,000.00 |
| 29 | Metropolitan Ave. | English Kills | Metropolitan Ave. | " | Bascule | 440 | 111 | e 10.72 | 17'-0" | | 2 | 1-53'- 0" | 2- 5'-8" | 1 | 86 | Mar. 27, 1933 | 636,492.61 | " | 636,492.61 |
| 30 | Cropsey (Harway) Ave. | Coney Island Creek | Cropsey Ave. | " | " | 382.7 | 155 | e 11.25 | Unlimited | | | 2-36'- 0" | 2- 7'-4" | 1 | 75 | Dec. 20, 1931 | 748,730.13 | " | 748,730.13 |
| 31 | Third Ave. | 3th St. Basin (Gowanus Canal) | Third Ave. | " | Steel Girder | 65 | 40.3 | 13 | " | | 2 | 1-42'- 0" | 2-13'-6" | 1 | 36.3 | 1889 | 9,233.78 | " | 9,233.78 |
| (b) 32 | Ocean Ave. | Sheepshead Bay | Ocean Ave. | " | Fixed | 544 | 46.2 | 7.8 | No Roadway | | | | 1- 7'-8" | 1 | 39 | June 9, 1917 | 9,913.00 | " | 9,913.00 |
| 34 | Lemon Creek | Lemon Creek | Bayview Ave. | Richmond | Retractable | 98 | 34 | 4 | Unlimited | | | 1- 8'-10" | | 1 | 30 | No Record | 5,000.00 | " | 5,000.00 |
| 35 | Fresh Kills | Richmond Creek | Richmond Ave. | " | Bascule | 385 | 81 | e 11.74 | " | | | 1-53'- 0" | 2- 6'-2" | 1 | 62 | Oct. 29, 1931 | 594,140.02 | " | 594,140.02 |
| 36 | Vernon Ave. | Newtown Creek | Manhattan Ave. Vernon Ave. | Brooklyn Queens | " | 1699 | 172 | 24 | 13'-11" | | 2 | 1-40'- 0" | 2- 8'-0" | 1 | 148.35 | Oct. 17, 1905 | 713,710.18 | 661,443.84 | 1,375,154.02 |
| 37 | Greenpoint Ave. | " " | Greenpoint Ave. | Brooklyn Queens | " | 1398.8 | 180 | 27.4 | Unlimited | | | 1-53'- 0" | 2- 8'-2" | 1 | 150 | Dec. 3, 1929 | 1,590,959.87 | 333,008.36 | 1,923,968.23 |
| 38 | Mecker Ave. | " " | Mecker Ave. Laurel Hill Boulevard | Brooklyn Queens | Swing | 310 | 200 | 9.4 | 14'-0" | | | 1-20'- 0" | 2- 5'-0" | 2 | 65 | 1894 | 127,650.00 | 3,000.00 | 130,650.00 |
| 39 | Grand St. | " " | Grand St. | Brooklyn Queens | " | 555 | 227 | 9 | 13'-6" | | 2 | 1-19'- 6" | 2- 6'-0" | 2 | 88.5 | Feb. 5, 1903 | 191,008.19 | 14,663.53 | 205,671.72 |
| 41 | Borden Ave. | Dutch Kills | Borden Ave. | Queens | Retractable | 345 | 82 | 4 | 17'-0" | | 2 | 1-34'- 0" | 2- 8'-0" | 1 | 49.3 | May 25, 1908 | 175,340.78 | 16,271.48 | 191,612.26 |
| 42 | Flushing | Flushing River | Northern Boulevard | " | Bascule | 351 | 71.5 | f 11.1 | 18'-0" | | 2 | 1-36'- 0" | 2- 8'-0" | 1 | 60 | Oct. 17, 1906 | 292,298.14 | 120,073.97 | 412,372.11 |
| 43 | Strongs Causeway | " " | Strong's Causeway | " | Swing | 138 | 128.1 | 2 | 16'-6" | | 2 | 1-28'- 5" | | 1 | 40.6 | 1896 | 30,000.00 | No Prop. Acq. | 30,000.00 |
| 44 | Little Neck | Alley Creek | Northern Boulevard | " | Fixed | 145 | 44.5 | 7.33 | Unlimited | | | 1-72'- 0" | 2- 8'-0" | 2 | 36.67 | Aug. 1, 1931 | 218,159.08 | " | 218,159.08 |
| 45 | Hunters Point Ave. | Dutch Kills | Hunter's Point Ave. | " | Bascule | 223 | 71.5 | f 8.8 | " | | | 1-36'- 0" | 2- 6'-0" | 1 | 50 | Dec. 14, 1910 | 108,985.56 | " | 108,985.56 |
| 46 | Hook Creek Canal | Hook Creek Canal | Rockaway Boulevard | " | Fixed | 100 | 54 | 3 | " | | | 1-24'- 0" | 1- 4'-6" | 1 | 50 | Nov. 11, 1923 | 55,189.58 | " | 55,189.58 |
| 47 | Hook Creek | Hook Creek | Rockaway Boulevard Rock Turnpike, Nassau County | " | " | 176.2 | 34.17 | 4.1 | " | | | 1-62'- 6" | 2-10'-0" | 1 2 | 31.33 30.17 | Jan. 13, 1931 | 34,216.75 | " | 34,216.75 |
| 48 | Beach Channel | Beach Channel | Cross Bay Boulevard | " | Bascule | 166 | 123 | e 26.3 | " | | | 1-36'- 0" | 1-12'-0" 1- 4'-0" | 1 | 100 | Sept. 18, 1924 | 472,537.87 | " | 472,537.87 |
| 49 | North Channel | North Channel | Cross Bay Boulevard | " | " | 166 | 123 | e 26.3 | " | | | 1-72'- 0" | 2-12'-0" | 1 | 100 | Oct. 31, 1925 | 748,436.80 | " | 748,436.80 |
| 50 | Roosevelt Ave. | Flushing River | Roosevelt Ave. | " | | | | | | | | | | | | | | | |

Bridges Nos. 14, 15, 16, 33, 40 and 53 Eliminated
 (a) Footbridge Approaches only under Jurisdiction of Dept. of Plant & Structures
 (b) Temporary Footbridge one block West of Ocean Avenue
 (c) Approaches only

(d) For 400 Ft. Channel
 (e) At Center
 (f) At 10 ft. from Center
 (g) All surface cars on roadway except as noted

(h) In separate space
 (i) Includes cost of East River Co.'s Franchise
 (j) Cost of Additional Property for New Bridge
 (k) Damages for change of grade
 (l) City's share of cost
 (m) Under Construction
 • Estimated Cost



BUREAU OF BRIDGES

INTRODUCTION

The Department maintains forty-nine (49) bridges over navigable streams in the five boroughs of the City and four viaducts in the Borough of Manhattan. It also has charge of the footwalk approaches to a railroad bridge over the Harlem River known as the New York and Putnam Bridge.

Of the forty-nine (49) bridges there are thirty-eight (38) movable bridges which are subject to the Federal regulations, requiring that they be opened promptly for the passage of vessels. The operation of these bridges of course involves the necessity of providing a substantial force of men for opening and closing the bridges and for keeping the operating machinery in repair.

All of the bridges and viaducts have to be kept in condition for service and preserved from deterioration. Nearly all the bridge floors and pavements were designed and built when the vehicles and loads crossing the bridges were light in comparison with what they are today, with the result that most of the bridge floors and pavements must be renewed in the very near future.

The bridges require many other repairs than those on the roadways. On the Brooklyn Bridge frequent repairs and replacements are required for reconditioning the suspender rods, suspender wire cables, diagonal overfloor stays, structural steel members in trusses, and floor beams and stringers. In order to increase the usefulness of this bridge, the trusses and floor system should be rebuilt. This can be done without reinforcing or changing the existing towers, anchorages or main cables.

In addition to the reconstruction of the Brooklyn Bridge, other recommendations and studies have been made by the Department, which will greatly increase the service of the bridges and at the same time reduce the maintenance costs.

Studies have been made for the construction of five new bridges to replace old or inadequate structures, as follows:

1. *Washington Avenue Bridge over Wallabout Canal*: Funds for the construction of this bridge were granted by the Federal Public Works Administration and the plans and specifications were approved by the State Engineer of that Administration on December 28, 1934. Construction work will be started in the spring of 1935.

ANNUAL REPORT—BUREAU OF BRIDGES

2. *Westchester Avenue Bridge over Bronx River*: Plans were prepared for a new and wider bridge at this location and for a proposed temporary bridge for use while the new permanent bridge is being built.

3. *Ocean Avenue Bridge over Sheepshead Bay*: Plans were prepared for the construction of a fixed bridge at this location. The existing structure is a foot bridge located at the foot of East 19th Street one block west of Ocean Avenue. The proposed bridge will have a roadway 60 feet wide and 2 footwalks each 10 feet wide. The clearance of the channel span will be 12 feet above mean high water.

4. *Mecker Avenue Bridge over Newtown Creek*: A new and larger bridge is proposed to replace the old bridge at this location. The loads on the existing bridge are restricted to 10 tons. The new bridge will make possible the elimination of the Long Island Railroad grade crossing on the Queens side. The plans of the United States War Department for making improvements in the channel of Newtown Creek require a new bridge.

5. *Flushing Bridge over Flushing River*: A new and larger bridge is needed by reason of the City having taken title for the widening of Northern Boulevard in the neighborhood of the present bridge structure.

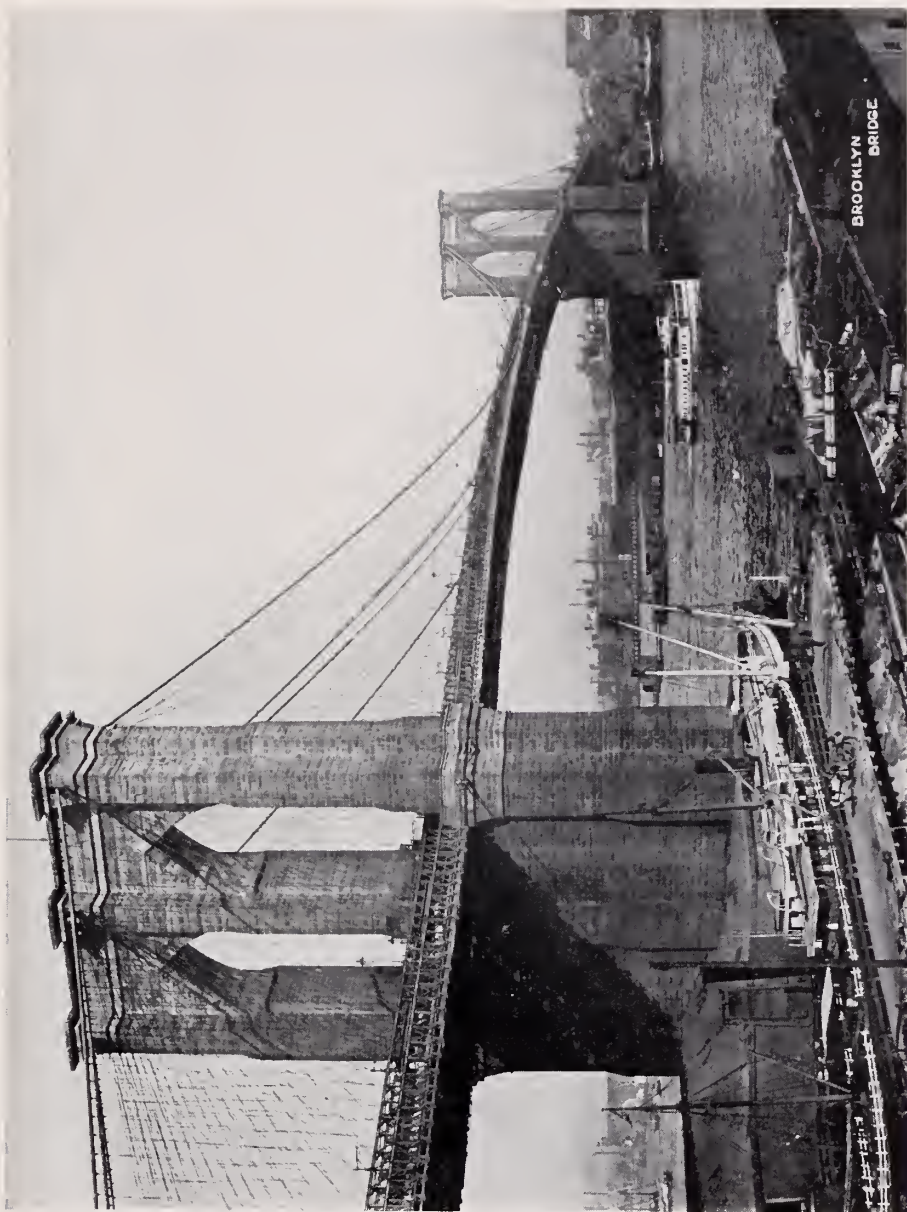
Studies have been made for the proposed widening of the Beach Channel Bridge, Jamaica Bay, to twice its present width. The existing roadway is 36 feet wide and is inadequate for the vehicular traffic, especially during the summer.

A plan has been prepared for the widening of the roadway of the Unionport Bridge over Eastchester Creek from 40 to 44 feet, by setting back each curb a distance of 2 feet.

Studies have been made for new floors and pavements on the following bridges:

- Manhattan Bridge over the East River
- Williamsburg Bridge over the East River
- Queensboro Bridge over the East River
- Willis Avenue Bridge over the Harlem River
- Macombs Dam Bridge over the Harlem River
- Vernon Avenue Bridge over Newtown Creek

The usefulness of the bridges and viaducts may be shown by the traffic they bear. The number of vehicles crossing all the bridges and viaducts in a single day amounts to 897,000; the number of railway cars, 39,300; and the number of persons 3,236,000. The Queensboro Bridge has the largest vehicular traffic of any of the bridges, amounting to about 103,000 vehicles a day. The Manhattan Bridge, because of the large number of subway cars crossing this structure, carries the greatest number of persons, amounting to about 629,000 a day.



BROOKLYN BRIDGE



BROOKLYN BRIDGE LOOKING TOWARD THE BOROUGH OF MANHATTAN
FROM BROOKLYN TOWER

DEPARTMENT OF PLANT AND STRUCTURES

BROOKLYN BRIDGE OVER THE EAST RIVER

Replacement was made of twenty-four suspender rods between main cables and trusses. Repairs were made to three suspender rods and nine posts between main cables and trusses. On the south side of the bridge, west half of main span, a diagonal stay cable was renewed extending from panel point 35, south outside truss, to top of Manhattan Tower and then down to panel point 37 of this truss. The diagonal stay cable adjacent to and west of the one above mentioned was repaired. New steel brackets to support inspection footwalk adjacent to the second truss from the south side of bridge were erected for a length of 480 feet on the main span and the inspection footwalk was restored on the new brackets. Repairs were made to floor beams and stringers under the south rapid transit railway track on the main span. Six new steel platforms were fabricated and erected for inspection and maintenance work under certain portions of the main bridge.

Repairs and replacements were made to promenade floor on the westerly half of the main span and on the Brooklyn end span covering an area of 10,000 square feet. Repairs were made to bridge railings, to roadway pavements and curbs, to compressed air pipe lines, to roof and leader pipes at the Manhattan and Brooklyn Terminal Stations and to the bridge lighting system. New concrete floor covering an area of 6400 square feet was laid in the three large bridge archways between York Street and the Brooklyn Anchorage. A new concrete floor with an area of 6525 square feet was constructed in the brick building on bridge property between Prospect and Main Streets at north side of Brooklyn Approach. A new wire fence was constructed around the yard at Dover and Water Streets, adjacent to the Manhattan Anchorage, and new concrete pavement covering an area of 9400 square feet was laid in and adjoining this yard. New concrete sidewalks were constructed as required alongside portions of bridge property.

Portions of the underdeck on the main span and on the Manhattan end span were painted. The interior of the Brooklyn Terminal Station was painted.

The Brooklyn and Queens Transit Corporation, which operates trolley cars across the bridge, reconstructed 3000 linear feet of track on south roadway and 2330 linear feet of track on north roadway, on main bridge. The reconstruction work included removal of old track, pavement and underdeck, and installation of new timber underdeck, new ties where needed, new running rails and new wood block pavement.

MANHATTAN BRIDGE OVER THE EAST RIVER

Stringers under rapid transit railway tracks on the easterly side of the lower deck were reinforced at 102 locations. New roadway steel plates with asphalt plank wearing surface were installed at 30 locations on the lower deck covering an area of 3000 square feet. The steel underfloor of the roadway on the lower deck was repaired at 59 locations with a total area of 11,800 square feet. Repairs were made as required to expansion joints in roadways. The vertical post in the second truss from the east at panel point 43 on the south half of the main span, which had been struck and badly bent by an automobile truck, was removed and a new post was installed.

Renewals were made to wood block pavement on roadways covering an area of 822 square yards. At the Brooklyn Plaza, granite block pavement was renewed for a total area of 901 square yards. Repairs were made to bridge railings, to granite block pavements on roadways, to compressed air and fire pipe lines, to tracks for traveling platforms under bridge structure and to the bridge lighting system.

At the island or safety space on north side of Nassau Street about 60 feet west of Bridge Street, the curb along Nassau Street was set back 20 feet, thus adding to the facilities for vehicular traffic at this location. The work involved the laying or relaying of 200 square yards of granite block pavement with concrete foundation and the construction of 100 linear feet of concrete curb with steel nosing.

Work was begun on painting the bridge and the westerly side was 100% completed on the Brooklyn Approach, the Brooklyn end span and the main span, and was 60% completed on the Manhattan end span. The part under the lower deck was 40% completed on the Brooklyn end span. The painting of the two main towers was completed above the floor of the lower deck. The portions of the main cables within the Brooklyn Anchorage were painted.



MANHATTAN BRIDGE

DEPARTMENT OF PLANT AND STRUCTURES

Beginning September 24th, the direction of vehicular traffic on the two roadways on the upper deck was established by the Police Department, as follows:

Mondays to Fridays, inclusive:

To Manhattan—8:00 a.m.-10:00 a.m. both roadways

To Brooklyn —5:00 p.m.- 7:00 p.m. both roadways

Other hours, easterly roadway to Manhattan and westerly roadway to Brooklyn.

Saturdays:

To Manhattan—8:00 a.m.-10:00 a.m. both roadways

Other hours, easterly roadway to Manhattan and westerly roadway to Brooklyn.

Sundays and Holidays:

All hours, easterly roadway to Manhattan and westerly roadway to Brooklyn.

Only passenger or light automobiles are allowed on the roadways on the upper deck.

Study was made for the proposed reconstruction of rocker supports for trusses at the main towers.

The New York Rapid Transit Corporation, which operates rapid transit trains across the bridge, renewed 1404 ties and 3753 linear feet of timber outer guard rail on easterly pair of rapid transit railway tracks on the Manhattan end span and northerly half of main span.

WILLIAMSBURG BRIDGE OVER THE EAST RIVER

Renewals were made to steel channel floor under south roadway on portions of the main span and the Manhattan end span and new wood block pavement was laid where new channels were put in the floor. Repairs were made to bridge railings, to steel curbs along roadways, to granite block pavement on roadways, to concrete slab footwalk floor, to compressed air pipe lines on bridge, to center platform at the Bedford Avenue trolley car station and to the bridge lighting system. Repairs were made as required to sidewalks alongside bridge property. A steel guard channel was erected along inner

side of each roadway for a length of 400 feet in central portion of main span as a protection from damage by vehicles to suspenders between main cables and the bridge trusses.

A fire alarm system was installed on the bridge with connections to each fire alarm box. The total number of fire alarm boxes in the system is 25, of which 12 on the easterly part of the bridge are connected with the Fire Department system in Brooklyn, and the remaining 13 on the westerly part of the bridge are connected with the Fire Department system in Manhattan. Portions of the main cables within the Manhattan and Brooklyn Anchorages were cleaned and new wires were added in the cables at these locations.

Work was continued and completed on the removal of the unused pair of trolley car tracks and equipment for same on the northerly part of the bridge. The space which was occupied by these tracks will be used for an additional roadway when funds are provided for constructing same. Portions of the new roadway were constructed near the Manhattan and Brooklyn Terminals of the Bridge.

Work was begun on widening the roadway between Havemeyer and Roebling Streets across the center of Brooklyn Plaza. Work was commenced on the construction of a three-story paint shop in the Kent Avenue yard. The shop is at the northwest corner of Kent Avenue and South 6th Street and has a frontage of 30 feet 6 inches along Kent Avenue and a frontage of 61 feet 4 inches along South 6th Street. At the end of the year, the reinforced concrete walls of the first floor and part of the second floor were in place and all steel columns for the first and second floors were erected. Portions of the Kent Avenue yard and of the yard east of Berry Street were paved. Portions of the steel work of the Brooklyn Tower and of the Manhattan and Brooklyn approaches were painted.

The Brooklyn and Queens Transit Corporation, which operates trolley cars across the bridge, installed guard rails on the north and south tracks at the Manhattan and Brooklyn Anchorages and made miscellaneous repairs to the trolley car tracks on bridge property used by that corporation.



WILLIAMSBURG BRIDGE
CONSTRUCTION OF NEW ROADWAY



WILLIAMSBURG BRIDGE
PORTION OF NEW ROADWAY COMPLETED

DEPARTMENT OF PLANT AND STRUCTURES

QUEENSBORO BRIDGE OVER THE EAST RIVER

Portions of the steel floor of the roadway on the lower deck were re-inforced or renewed on the main bridge and on the Queens Approach covering an area of 2788 square yards. Wood block pavement was laid on the reconstructed section of the roadway floor. Repairs were made to granite block pavement on roadways on approaches and to bituminous concrete pavement on roadway on upper deck on the main bridge. Repairs were made to expansion joints in roadway on the lower deck. A cable guard, consisting of one cable attached to new steel posts, was erected along the south side of the roadway on the upper deck from the Manhattan Anchor Pier to the Queens Anchor Pier, a length of 3724 feet. Repairs were made as required to bridge railings, to roadway curbs and to the bridge lighting system. Ninety new metal traffic signs were placed on the structure.

The trolley car platforms at the Queens Anchor pier were repaired. New hoisting cable was installed for the elevator in the south tower of the Queens Anchor Pier. Repairs were made to the traveling platform under the lower deck. These traveling platforms are used for inspection and for maintenance work.

New concrete sidewalk was laid on East 59th and East 60th Streets adjacent to the Manhattan Approach covering an area of 4975 square feet. New concrete sidewalk was laid on the north footwalk at the Manhattan Approach covering an area of 425 square feet. The bases of 66 steel columns in underground space under the Manhattan Approach were enclosed with concrete. A concrete floor covering an area of 800 square feet was constructed in this underground space. Two concrete ramps covering an area of 460 square feet were constructed in the underground trolley car station at the Manhattan Terminal to replace certain stairway steps. Certain partitions and floors were constructed and new water pipe lines were laid in the shops and storerooms under the Manhattan Approach.

A recreation and playground center was constructed on the south side of the Manhattan Approach west of First Avenue. In the area occupied by this center, 17 trees were planted, and 25 benches, a flag pole, a drinking fountain, a shower, a sand box, 2 shuffle board courts, a deck tennis court and facilities for other children's games were installed. This center was opened for public use June 19th.

Work was in progress on painting the steel work on the Queens Approach. The flag poles and their bases at the tops of the four main towers of the bridge were painted. Portions of the shops and storerooms under the Manhattan Approach were painted.

Beginning June 8th the direction of vehicular traffic on the roadway on the upper deck was established by the Police Department, as follows:

| | |
|--------------------------|-------------------------|
| Weekdays—Westbound | 5 a.m. to 11 a.m. |
| Eastbound | remaining hours of day. |
| Sundays and | |
| Holidays —Westbound..... | 5 p.m. to 11 p.m. |
| Eastbound | remaining hours of day. |

The Interborough Rapid Transit Company, which operates rapid transit trains on the upper deck, made miscellaneous repairs to the electric feeder system and to tracks on bridge used by that Company. The trolley car companies operating trolley cars on the lower deck made miscellaneous repairs to the tracks and electric feeder systems used in connection with the operation of the trolley cars.

Plans and specifications were prepared for the completion of the masonry attics on the four main piers of the bridge.

WILLIS AVENUE BRIDGE OVER HARLEM RIVER

The steel floor under the roadway was reinforced or renewed as required on the swing span and on the approaches. The roadway pavement was relaid at the locations where it had been removed for reinforcing or renewing steel floor. The expansion joint at the north end of the fixed span north of the swing span was rebuilt between west curb and west trolley car track and at the location of the east trolley car track.

Repairs and renewals were made to wood block pavement in roadway on Bronx Approach. Repairs were made to cable guards back of curbs on approaches, to granite block pavement on roadway on approaches, to bridge railings, to concrete footwalk on west side of Manhattan Approach, to roadway apron at south end of swing span, to curb angles on west side of Bronx Approach, to south side of west half of center pier fender, to water line



QUEENSBORO BRIDGE

DEPARTMENT OF PLANT AND STRUCTURES

under Manhattan Approach, to roadway gates, to bridge lighting system, to bridge operating machinery and to electrical equipment. At the footwalk shelter on east side of Bronx Approach, the glass in sash was replaced with galvanized sheet iron to save cost of renewals of glass, due to breakage. Work was continued and completed on painting the bridge.

A contract was entered into on December 17th at a price of \$1,400 for removing one old pile cluster and constructing one new pile cluster at the easterly end of the center pier fender. Work on this contract had not been started at the end of the year.

The Third Avenue Railway System which operates trolley cars across the bridge made repairs to tracks and to roadway pavement in the railway area.

THIRD AVENUE BRIDGE OVER HARLEM RIVER

Work was continued and was completed on January 29th on the contract for furnishing and erecting new end lifts and latches on the swing span. The amount of this contract was \$24,262.41.

The two platforms, one on each rest pier at ends of swing span, which platforms are used for inspection, maintenance and oiling purposes, were renewed. The masonry bulkhead on the north side of the Harlem River under the bridge was rebuilt. Repairs and renewals were made to wood block pavement on roadways on swing span. Repairs were made to bridge railings, to granite block pavement on roadway on approaches, to roofs of northeast, northwest and southeast shelters over footwalks, to lamp-posts on the Lexington Avenue Approach, to navigation lights, to platform outside the operating enclosure, to storeroom enclosures under the approaches, to bridge operating machinery and to the electrical equipment at the bridge. Work was begun and was 20% completed on the installation of a new lighting system. The steel work of both approaches and the railings on the swing span were painted.

The Third Avenue Railway System which operates trolley cars across the bridge made repairs to tracks on the approaches and to roadway pavement in the railway area on the approaches.

ANNUAL REPORT—BUREAU OF BRIDGES

MADISON AVENUE BRIDGE OVER HARLEM RIVER

Reinforced concrete barricades were constructed back of curbs on the steel portion of the Bronx Approach. These barricades prevent vehicles running up over curbs and footwalks and crashing into or through the bridge railings. Timber barricades for the same purpose were erected back of curbs at the intersection of the Madison Avenue and Fifth Avenue Approaches.

Repairs and renewals were made to wood block pavement on roadways on swing span. Repairs were made to bridge railings, to traffic gates, to granite block pavement on the Manhattan Approach, to roadway curb angles, to sheeting at southwest corner of center pier fender, to navigation lights, to bridge lighting system and to electrical equipment.

The Third Avenue Railway System which operates trolley cars across the bridge made repairs to tracks on the approaches and to overhead trolley wires on swing span and on Manhattan Approach.

145TH STREET BRIDGE OVER HARLEM RIVER

Reinforced concrete barricades were constructed back of curbs on the steel portions of the Bronx and Manhattan Approaches. These barricades prevent vehicles running up over curbs and footwalks and crashing into or through the bridge railings. The footwalk aprons at the east end of the swing span were renewed. Repairs were made to granite block and wood block pavements on roadways, to footwalk pavements, to bridge railings, to northeast roadway gate, to sheeting on east side of center pier fender, to bridge lighting system, to bridge operating machinery and to electrical equipment.

The Third Avenue Railway System which operates trolley cars across the bridge made repairs to roadway pavement in the railway area on the Manhattan Approach.

MACOMBS DAM BRIDGE OVER HARLEM RIVER

The steel floor under the roadway on the swing span was reinforced as required and the roadway pavement was renewed at the locations where the steel floor was reinforced. A steel platform was constructed under the northwest corner of the swing span. This platform is used for inspection,

DEPARTMENT OF PLANT AND STRUCTURES

maintenance and oiling purposes. Repairs were made to bridge railings, to northwest roadway gate, to granite block pavement on Bronx Approach, to wood block pavement on swing span and on Bronx Approach, to bridge lighting system and to electrical equipment.

The Third Avenue Railway System which operates trolley cars across the bridge made repairs to the tracks on the swing span and to roadway pavement in the railway area on the swing span and on the Bronx Approach.

NEW YORK AND PUTNAM BRIDGE OVER HARLEM RIVER

The footwalk approaches only of this bridge are under the jurisdiction of the Department of Plant and Structures.

Repairs and renewals were made to railings and footwalk planking on the approaches and to portion of the timber bents supporting the Bronx Approach.

UNIVERSITY HEIGHTS BRIDGE OVER HARLEM RIVER

The bottom flange angles of the floor beams at both ends of the swing span were renewed. The footwalk aprons at the four corners of the swing span were rebuilt. Repairs and renewals were made to wood block pavement on roadway on swing span and on the Bronx Approach. Repairs were made to bridge railings, to granite block pavement on roadway on Bronx Approach, to concrete footwalk on north side of Bronx Approach, to water pipe line under Manhattan Approach, to the lighting system, to bridge operating machinery and to electrical equipment.

SHIP CANAL BRIDGE OVER HARLEM RIVER

The steel floor under the westerly part of roadway was reinforced as required. The roadway pavement was relaid at the locations where it had been removed for reinforcing steel floor. Repairs were made to bridge railings, to southwest footwalk shelter, to asphalt pavement on roadway, to concrete footwalk on west side of north approach, to platform outside operating enclosure, to water pipe line, to bridge lighting and signal systems and to electrical equipment.

The Third Avenue Railway System which operates trolley cars across the bridge made repairs to tracks and to roadway pavement in the railway area.

135TH STREET BRIDGE OVER MOTT HAVEN CANAL

Repairs and renewals were made to underdeck and wearing surface planking on roadway, to footwalk planking and to stringers under footwalks. The steel floor on north side of roadway over the tail pocket at east end of bridge was reinforced by adding new steel beams. Repairs and renewals were made to conduit and wiring located under south sidewalk of 135th Street between the bridge and Third Avenue, which conduit and wiring are used in supplying electric current for operating the bridge. Repairs were made to roof and doors of bridge tenders' house and to the bridge operating machinery.

WESTCHESTER AVENUE BRIDGE OVER BRONX RIVER

Extensive repairs and renewals were made to underdeck and wearing surface planking on roadway on retractile or draw span. Repairs and renewals were made to footwalk planking. Replacements were made to rails on track on which the retractile span rolls when this span is being opened and closed. A new stairway was constructed on the south side of east approach leading from the footwalk level to the ground level below the bridge. Repairs were made to bridge railings, to northeast and southeast roadway gates and to electrical equipment at the bridge. The bridge structure was painted.

The Third Avenue Railway System which operates trolley cars across the bridge made repairs to tracks and to roadway planking in the railway area.

174TH STREET BRIDGE OVER BRONX RIVER

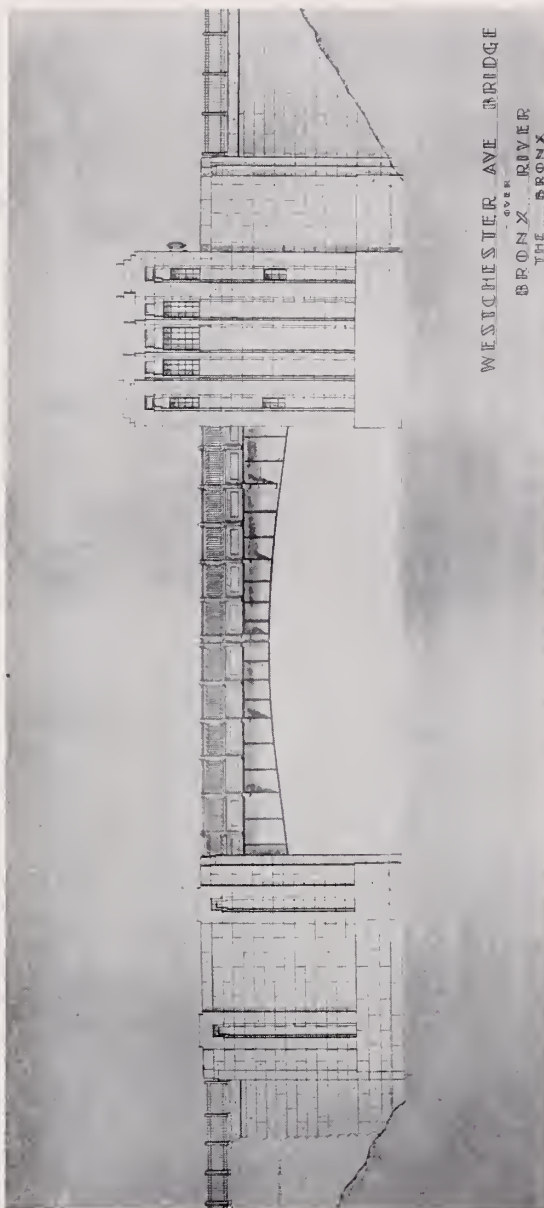
The pockets in the pedestal bearings at the ends of the river span were filled in with concrete to keep out water and debris. Repairs were made to railing on the south side of the river span. The bridge structure was painted.

EASTERN BOULEVARD BRIDGE OVER BRONX RIVER

Repairs were made to bridge operating machinery and to electrical equipment. Certain steel plates at the southeast and southwest corners of the lift span were cut back by burning to provide clearance for opening and closing the bridge.



EXISTING WESTCHESTER AVENUE BRIDGE
OVER BRONX RIVER



WESTCHESTER AVE BRIDGE
OVER
BRONX RIVER
THE BRONX

PROPOSED WESTCHESTER AVENUE BRIDGE
OVER BRONX RIVER

DEPARTMENT OF PLANT AND STRUCTURES

UNIONPORT BRIDGE OVER WESTCHESTER CREEK

Repairs and renewals were made to wood block pavement on roadway and to footwalk planking. Portions of the concrete backing which had become loosened in south bay of west pier were renewed. Repairs were made to footwalk aprons at center of lift span, to the pile cluster on west side of channel north of bridge, to bridge operating machinery and to electrical equipment.

PELHAM BRIDGE OVER EASTCHESTER BAY

A contract was entered into on May 16th for removing one old pile cluster and constructing three new pile clusters on south side of channel east of the bridge. The amount of the contract was \$2,250 and the work included in the contract was completed on July 16th.

Repairs and renewals were made to underdeck and wearing surface planking on roadway on lift span and to footwalk planking. Repairs were made to bridge railings, to roadway pavement on approaches, to concrete footwalks on north approach, to roadway gates, to wire cable guard back of west curb on north approach, to bridge lighting system, to bridge operating machinery and to electrical equipment at the bridge. The trusses, racks and rack supports of the two leaves of the lift span were overhauled and all loose and deteriorated rivets and bolts were renewed.

EASTCHESTER BRIDGE OVER EASTCHESTER CREEK

Repairs and renewals were made to underdeck planking and wood block pavement on roadway on lift span and to footwalk pavements. Repairs were made to bridge railings, to roadway apron at west end of lift span, to bridge operating machinery and to electrical equipment at the bridge. Two walls of the channel side of the west pier, which had been struck and damaged by boats, were repaired. Work was begun and was 40% completed on painting the steel work in the counterweight pits.

A contract was entered into on December 17th at a price of \$1,370 for removing one old pile cluster and reconstructing a part of the fender on the north side of the west pier. Work on this contract had not been started at the end of the year.

CITY ISLAND BRIDGE OVER PELHAM BAY NARROWS

Under a permit from this Department for which a rental is charged, the Consolidated Gas Company of New York installed a four inch gas main across the bridge under the north footwalk. At each end of the swing span a sliding joint is provided which can be disconnected when it is necessary to open the swing span.

HAMILTON AVENUE BRIDGE OVER GOWANUS CANAL

Repairs and renewals were made to wearing surface planking on roadway. Repairs were made to bridge railings, to roadway apron plates at center of lift span and to the bridge operating machinery. The wooden stairway leading to the pit in each abutment was reconstructed.

NINTH STREET BRIDGE OVER GOWANUS CANAL

Repairs were made to two of the roadway gates and to the bridge operating machinery. Work was begun and was 60% completed on painting the traffic gates.

THIRD STREET BRIDGE OVER GOWANUS CANAL

Repairs and renewals were made to underdeck and wearing surface planking and to wood block pavement on roadway. Repairs were made to the bridge operating machinery. Work was commenced on the erection of new railings on the lift span.

CARROLL STREET BRIDGE OVER GOWANUS CANAL

Repairs and renewals were made to underdeck and wearing surface planking on roadway and to footwalk planking. The old timber and brick foundation of the operating motor was removed for a depth of 30 inches under the motor. A new foundation consisting of 18 inches of concrete, 10 inches of timber and 2 inches steel plate, was constructed. The motor was anchored to the new foundation with new anchor bolts. Repairs were made to roadway curbs and to the electrical equipment.

DEPARTMENT OF PLANT AND STRUCTURES

UNION STREET BRIDGE OVER GOWANUS CANAL

Repairs and renewals were made to wearing surface planking on roadway and to footwalk planking. Repairs were made to bridge railings, to roadway curbs, to steel plates at center of lift span, to timber bulkheads along channel and to the bridge operating machinery. Four (4) new wooden roadway gates were erected.

WASHINGTON AVENUE BRIDGE OVER WALLABOUT CANAL

Repairs and renewals were made to underdeck planking and wood block pavement on roadways and to footwalk planking. A steel stringer was reinforced and two steel beams were renewed in the bridge floor.

METROPOLITAN AVENUE BRIDGE OVER ENGLISH KILLS

Repairs were made to the southwest roadway gate, to the bridge operating machinery and to the electrical equipment.

HARWAY (CROPSY) AVENUE BRIDGE

A traffic light was erected at each end of the bridge for use in stopping street traffic when the lift span is open for the passage of vessels. Repairs and renewals were made to apron plates and steel supports for same at south end of west lift span. Repairs were made to roadway pavements, to footwalk planking, to the bridge operating machinery and to the electrical equipment.

STILLWELL AVENUE BRIDGE OVER CONEY ISLAND CREEK

The rack on the center pier used in operating the swing span was removed and a new support for the rack was constructed. This new support has a depth of 18 inches and consists of concrete with a steel plate on top. The rack was replaced on the new support. A new wooden roadway gate was erected on the west side of the north approach. Repairs were made to traffic gates, to footwalk planking, to center pier fender, to bridge operating machinery and to electrical equipment.

OCEAN AVENUE BRIDGE OVER SHEEPSHEAD BAY

The existing structure is a foot-bridge located at East 19th Street one block west of Ocean Avenue.

Repairs and renewals were made to bridge railings and to footwalk planking. The bridge railings were painted. The construction of a new timber bulkhead under and adjacent to the bridge structure at north side of Sheepshead Bay was commenced under the direction of the Department of Docks.

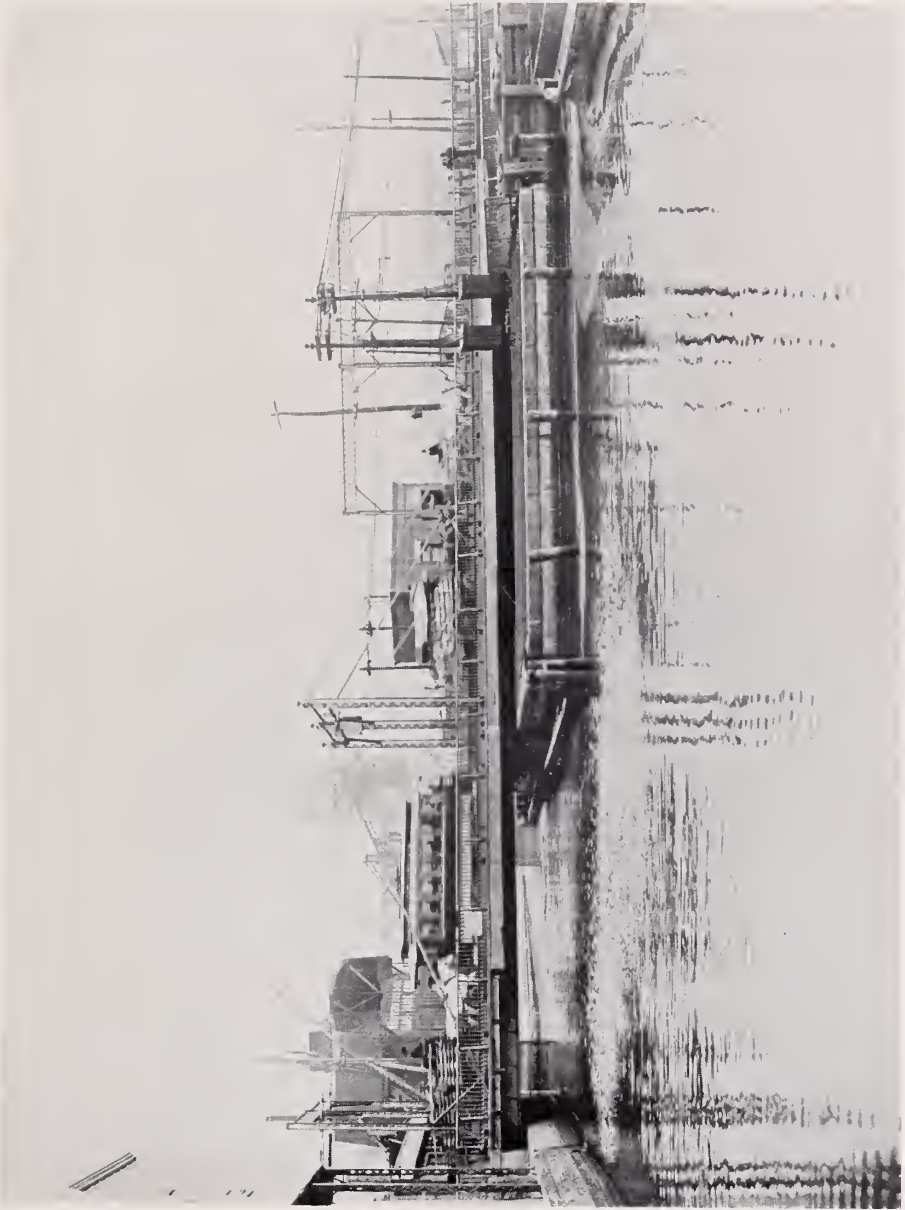
VERNON AVENUE BRIDGE OVER NEWTOWN CREEK

A contract was entered into on August 8th for laying three submarine cables at this bridge and one submarine cable at the Greenpoint Avenue Bridge. The amount of the contract was \$1,499 and the work included in the contract was completed on December 5th.

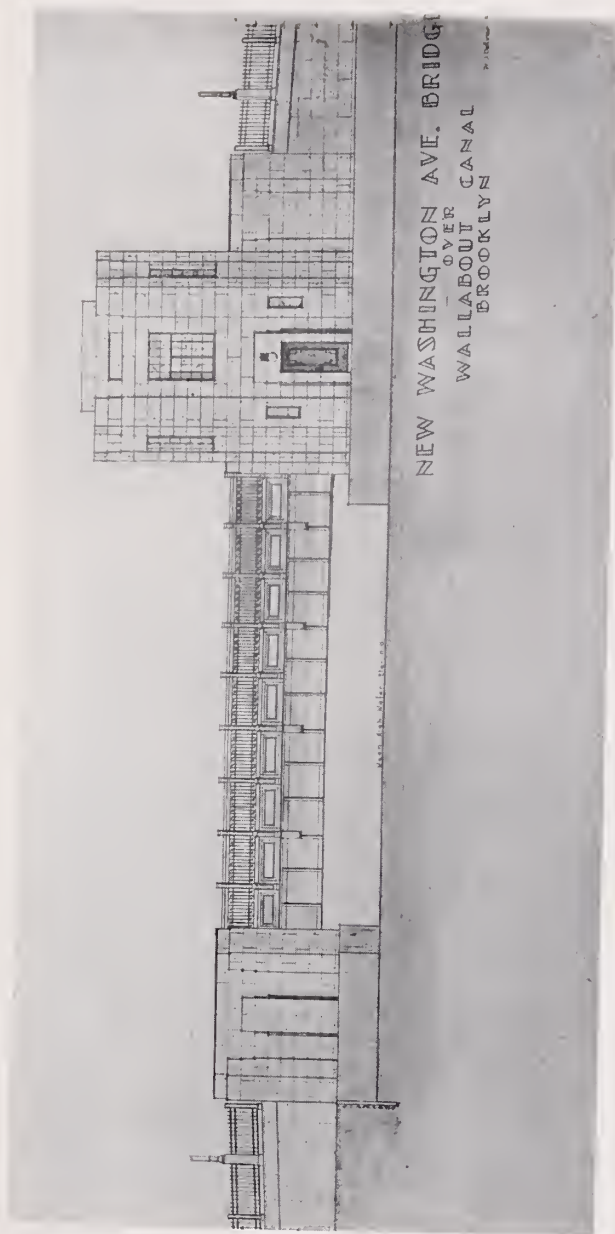
A new concrete footwalk and concrete curb were constructed on each side of the Queens Approach between 50th and 51st Avenues. Two stairways at 51st Avenue, one at the east footwalk and the other at the west footwalk, were removed.

Repairs and renewals were made to underdeck and wearing surface planking on roadway on lift span and to wood block pavement on roadway on the Queens Approach. Repairs were made to bridge railings, to footwalk planking, to apron plates on roadway of the Queens Approach, to southeast roadway gate, to northeast and northwest shelters over footwalks, to water pipe line under Queens Approach, to bridge operating machinery, to electrical equipment and to roof of the north bridge operating enclosure which had been damaged by a fire. Repairs and replacements were made to floor beams, stringers and connecting angles at the northeast and southeast corners of the north leaf of the lift span and at the southwest corner of the south leaf of the lift span.

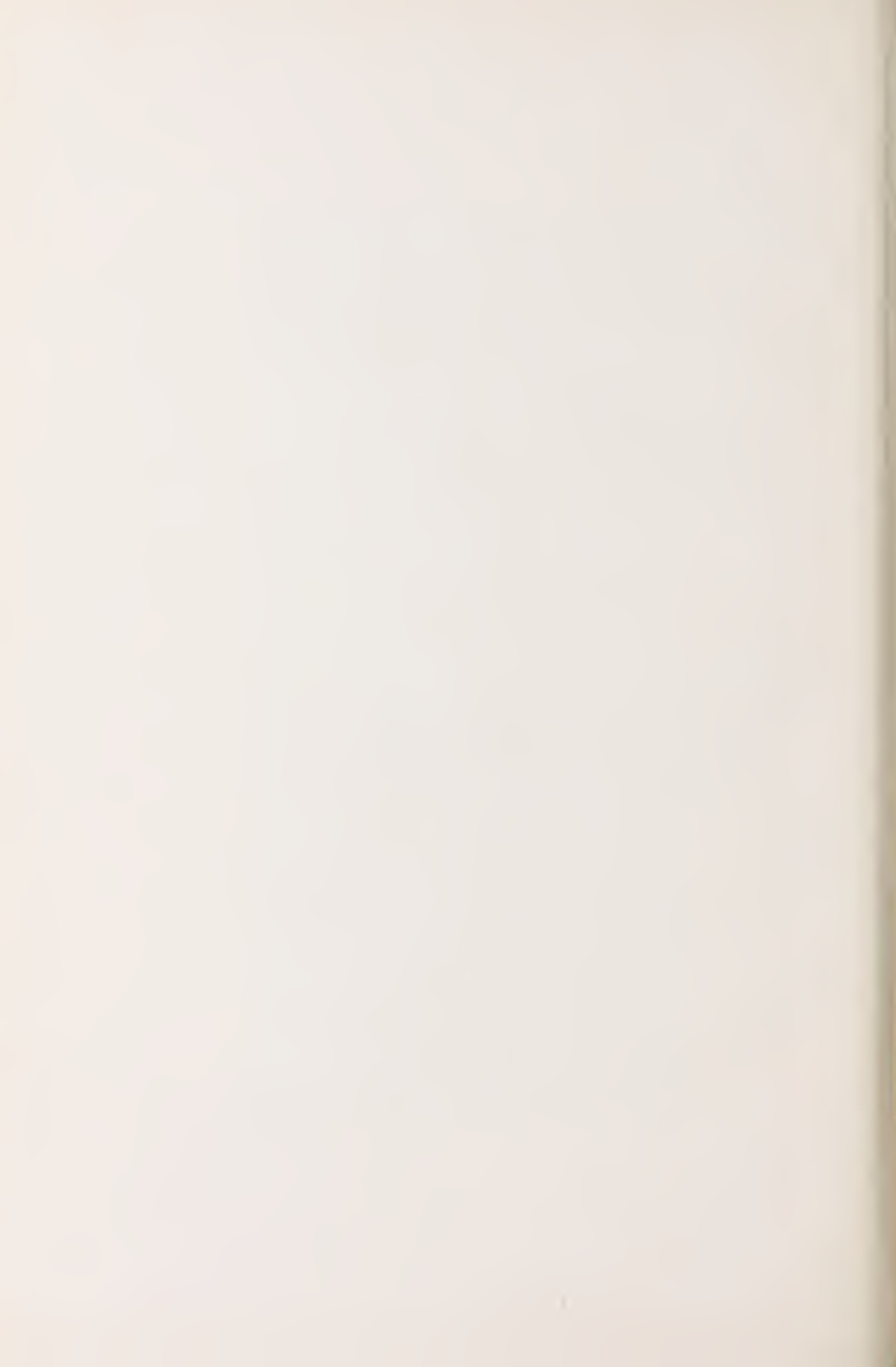
Certain steel beams and stringers were reconstructed in the floor system of the Queens Approach over the tracks of the Long Island Railroad Company south of Borden Avenue.



OLD WASHINGTON AVENUE BRIDGE OVER WALLABOUT CANAL



PROPOSED NEW WASHINGTON AVENUE BRIDGE
OVER WALLABOUT CANAL



DEPARTMENT OF PLANT AND STRUCTURES

GREENPOINT AVENUE BRIDGE OVER NEWTOWN CREEK

A contract was entered into on August 8th for laying one submarine cable at this bridge and three submarine cables at the Vernon Avenue Bridge. The amount of the contract was \$1,499 and the work included in the contract was completed on December 5th.

Repairs and renewals were made to roadway pavement and to the footwalk planking. Repairs and replacements were made to roadway apron plates at the east end of the Brooklyn Approach adjacent to the lift span. Repairs were made to bridge railings, to southeast roadway gate, to water pipe line under the Brooklyn Approach and to electrical equipment. Repairs were made to main girder on north side of east leaf of the lift span which girder had been struck and damaged by a passing boat.

Extensive emergency repairs were made to the machinery operating the west leaf of the lift span. While the work was in progress it was necessary to keep this leaf in its lowered position from November 1st to 10th, inclusive, and boats passing through the bridge channel during this time used the east half of the channel. The work was done under an emergency order at a cost of \$3,175.68.

Work was in progress on regrading footwalks and curbs on the Brooklyn Approach. The work consists in resetting curbs and constructing new concrete footwalks where necessary. At the end of the year, the work had been completed on the north side and was 50% completed on the south side of this approach.

Work was commenced and was 30% completed on painting the steel work in the counterweight pit of the west leaf of the lift span. Work was in progress on the preparation of plans for the improvement of the bridge operating machinery.

MEEKER AVENUE BRIDGE OVER NEWTOWN CREEK

The bottom chords of the trusses of the swing span were reinforced at the northwest and southwest corners of this span. Repairs and renewals were made to the underdeck and wearing surface planking on the roadway and to the footwalk planking. Repairs were made to bridge railings, to roadway

gates, to bridge operating machinery and to the electrical equipment at the bridge. Signs were erected limiting weight of vehicles, including loads, to ten tons.

Contracts were let amounting to \$3,415.27 for the purchase of steel plates, eye bars, channels, I-beams, etc., to be used in reinforcing the swing span. The reinforcing work will be done by Departmental labor.

A contract was awarded on December 24th at a price of \$2,512 for removing old pile clusters and constructing new pile clusters at this bridge, and at Flushing Bridge. The contract includes the replacement of two pile clusters, one at each end of the south rest pier of the Meeker Avenue Bridge.

GRAND STREET BRIDGE OVER NEWTOWN CREEK

Repairs and renewals were made to underdeck planking and wood block pavement on roadway, to footwalk planking and to wooden stringers supporting footwalks. Repairs were made to bridge railings, to roadway gates, to bridge operating machinery and to the electrical equipment. Work was commenced and was 33% completed on painting the steel work of the bridge.

FLUSHING BRIDGE OVER FLUSHING RIVER

The underdeck and wearing surface planking on the northerly longitudinal half of the roadway on the lift span was renewed. The steel work under this portion of the roadway was reinforced where needed. The planking on the north footwalk of the lift span was renewed. A new track plate was installed at the northeast corner of the lift span. When the bridge is being opened and closed, the rocker plates of the lift span roll on the track plates. Repairs were made to bridge operating machinery and to electrical equipment. The bridge railings were painted.

A contract was awarded on December 24th at a price of \$2,512 for removing old pile clusters and constructing new pile clusters at this bridge and at Meeker Avenue Bridge. The contract includes the replacement of two pile clusters, one north of the west pier and the other south of the east pier of the Flushing Bridge.



EXISTING OCEAN AVENUE BRIDGE OVER SHEEPSHEAD BAY



PROPOSED OCEAN AVENUE BRIDGE

OVER SHEEPSHEAD BAY



DEPARTMENT OF PLANT AND STRUCTURES

STRONGS CAUSEWAY BRIDGE OVER FLUSHING RIVER

The wood block pavement on roadway on swing span was removed. The underdeck planking was renewed where necessary and a new plank wearing surface three inches thick was laid on top of the underdecking. Repairs and renewals were made to wearing surface planking on roadway on approaches and to supports on pier under northeast corner of swing span.

ROOSEVELT AVENUE BRIDGE OVER FLUSHING RIVER

Work was continued and completed on the installation of restraining angles in the roadway on the approaches to subdivide the wood block pavement into small panels. False work was erected to support the upper deck at the north side of the west end of the west approach on account of the settlement and movement of the foundation of the steel column at this location. The steel column was raised four inches and brought to proper position. The foundation was reconstructed and a new base for the column was built at the level of the footwalk. A scaffold was erected at the steel column adjacent to and east of the one above mentioned in order that the steel work on top of this second column may be raised $1\frac{1}{2}$ inches to proper position.

Repairs and renewals were made to wood block pavement in roadway. Repairs were made to southwest roadway gate, to electrical equipment at bridge and to steel plates and angles of roadway dam at west end of lift span. Work was in progress and was 75% completed on painting bridge railings and gates and was 80% completed on painting steel work in the west counterweight pit.

HUNTERS POINT AVENUE BRIDGE OVER DUTCH KILLS

Repairs were made to a roadway apron plate at the center of the lift span and to the electrical equipment at the bridge.

BORDEN AVENUE BRIDGE OVER DUTCH KILLS

Repairs and renewals were made to footwalk planking and to bridge railings. Repairs were made to bridge operating machinery and to electrical equipment at the bridge.

ANNUAL REPORT—BUREAU OF BRIDGES

BEACH CHANNEL BRIDGE OVER BEACH CHANNEL JAMAICA BAY

Repairs and renewals were made to wood block pavement on roadway and to footwalk planking. Timbers were attached to the face of the north pier at the place where the submarine electrical cables leave this pier to protect the cables from damage by passing boats. Repairs were made to bridge operating machinery and to electrical equipment. Twelve hundred (1200) cubic yards of rip-rap were deposited alongside piers and fenders as an aid in preventing scouring of channel.

NORTH CHANNEL BRIDGE OVER NORTH CHANNEL JAMAICA BAY

Repairs and renewals were made to wood block pavement on roadway. Repairs were made to apron plates at center of lift span and to the bridge operating machinery.

NOLINS AVENUE BRIDGE OVER SHELL BANK BASIN

Work was continued and completed on the renewal of the wearing surface planking on the roadway on the lift span and approaches. The new wearing surface planking is three inches thick, replacing old planking two inches thick. Repairs and renewals were made as required to the underdeck planking before the new wearing surface planking was laid.

Repairs and renewals were made to bridge railings and to footwalk planking.

HAWTREE BASIN BRIDGE OVER HAWTREE BASIN

Repairs and renewals were made to underdeck and wearing surface planking on roadway, to timber curbs, to bridge railings and to footwalk planking.

LEMON CREEK BRIDGE OVER LEMON CREEK

Repairs and renewals were made to underdeck and wearing surface planking on roadway and to bridge railings. The timber framing, which supports the hand operating machinery, was renewed.

DEPARTMENT OF PLANT AND STRUCTURES

FRESH KILLS BRIDGE OVER RICHMOND CREEK

Repairs were made to wood block pavement on the roadway.

RIVERSIDE DRIVE VIADUCT No. 1

ST. CLAIR PLACE TO 135TH STREET, MANHATTAN

The speed limit signs on the viaduct were removed, repaired, repainted and re-erected.

RIVERSIDE DRIVE VIADUCT No. 2

153RD STREET TO 155TH STREET, MANHATTAN

Repairs were made to a 3-inch electrical conduit under the westerly footwalk which conduit carries wiring for the lighting system. The steel work of the viaduct, including railings, were painted.

155TH STREET VIADUCT

EDGECOMBE AVENUE TO MACOMBS DAM BRIDGE, MANHATTAN

Repairs were made to granite block pavement in roadway adjacent to expansion joints. Repairs were made to three panels of railing which had been struck and damaged by an automobile. Repairs and renewals were made to safety treads and platforms on stairways leading to Eighth Avenue. Work was commenced and was 15% completed on the installation of a new lighting system on the viaduct.

PARK AVENUE VIADUCT

40TH STREET TO 42ND STREET, MANHATTAN

Repairs were made to expansion joints in roadway. At the northerly end of the viaduct over the north half of 42nd Street, the roadway pavement was repaired and waterproofed to prevent seepage of water.

SUMMARY OF BRIDGE TRAFFIC COUNTS FOR 24 HOURS
IN BOTH DIRECTIONS—1934

| Bridges | Cars | Vehicles | Passengers | | Pedestrians | Total People |
|----------------------|-------|----------|------------|-------------|-------------|--------------|
| | | | In Cars | In Vehicles | | |
| East River | | | | | | |
| Brooklyn | 4,497 | 23,818 | 74,807 | 47,636 | 3,675 | 126,118 |
| Manhattan | 6,229 | 83,874 | 455,061 | 172,335 | 1,566 | 628,962 |
| Williamsburg | 4,954 | 46,288 | 295,512 | 92,576 | 2,402 | 390,490 |
| Queensboro | 2,715 | 103,151 | 89,097 | 214,079 | 1,587 | 304,763 |
| Harlem River | | | | | | |
| Willis Avenue | 442 | 33,513 | 8,288 | 67,026 | 2,968 | 78,282 |
| Third Avenue | 393 | 21,474 | 923 | 42,948 | 2,987 | 46,858 |
| Madison Avenue | 288 | 30,527 | 4,173 | 61,054 | 6,112 | 71,339 |
| 145th Street | 442 | 18,331 | 14,172 | 36,662 | 3,868 | 54,702 |
| Macombs Dam | 627 | 28,170 | 8,749 | 56,340 | 2,018 | 67,107 |
| New York and Putnam | | | | | 568 | 568 |
| Washington | 1,464 | 25,459 | 26,018 | 50,918 | 6,412 | 83,348 |
| University Heights | 383 | 15,990 | 8,567 | 31,980 | 2,148 | 42,695 |
| Ship Canal | 5,198 | 34,894 | 53,296 | 69,788 | 1,686 | 124,770 |
| Borough of The Bronx | | | | | | |
| 135th Street | | 5,529 | | 11,058 | 768 | 11,826 |
| Westchester Avenue | 788 | 18,313 | 26,945 | 36,626 | 12,359 | 75,930 |
| Unionport | | 4,923 | | 9,846 | 1,085 | 10,931 |
| Pelham | | 11,053 | | 23,868 | 195 | 24,063 |
| City Island | | 4,805 | | 11,165 | 105 | 11,270 |
| Eastchester | | 17,429 | | 34,858 | 275 | 35,133 |
| 174th Street | | 7,014 | | 14,028 | 7,746 | 21,774 |
| Eastern Boulevard | | 971 | | 1,942 | 1,427 | 3,369 |

SUMMARY OF BRIDGE TRAFFIC COUNTS FOR 24 HOURS
IN BOTH DIRECTIONS—1934
(Continued)

| Bridges | Cars | Vehicles | Passengers | | Pedestrians | Total People |
|------------------------|-------|----------|------------|-------------|-------------|--------------|
| | | | In Cars | In Vehicles | | |
| Borough of Brooklyn | | | | | | |
| Hamilton Avenue | 815 | 19,360 | 12,949 | 38,720 | 2,047 | 53,716 |
| Ninth Street | 390 | 4,200 | 6,109 | 8,400 | 2,546 | 17,055 |
| Third Street | ..... | 3,339 | ..... | 6,678 | 1,764 | 8,442 |
| Carroll Street | ..... | 1,158 | ..... | 2,316 | 2,173 | 4,489 |
| Union Street | 324 | 4,613 | 4,062 | 9,226 | 3,535 | 16,823 |
| Washington Avenue | 485 | 14,047 | 12,718 | 28,082 | 1,680 | 42,480 |
| Metropolitan Avenue | 682 | 13,415 | 10,935 | 26,830 | 1,215 | 38,980 |
| Harway Avenue | ..... | 6,521 | ..... | 13,042 | 3,553 | 16,595 |
| Third Avenue (Gowanus) | 316 | 8,404 | 4,942 | 16,808 | 1,214 | 22,964 |
| Ocean Avenue | ..... | ..... | ..... | ..... | 2,538 | 2,538 |
| Stillwell Avenue | 581 | 5,792 | 2,741 | 11,584 | 1,280 | 15,605 |
| Newtown Creek | | | | | | |
| Vernon Avenue | 954 | 15,130 | 8,857 | 30,260 | 10,024 | 49,141 |
| Greenpoint Avenue | ..... | 18,114 | ..... | 38,704 | 1,640 | 40,344 |
| Meeker Avenue | ..... | 5,662 | ..... | 11,324 | 2,758 | 14,082 |
| Grand Street | 275 | 4,042 | 5,202 | 8,084 | 327 | 13,613 |

SUMMARY OF BRIDGE TRAFFIC COUNTS FOR 24 HOURS
IN BOTH DIRECTIONS—1934
(Continued)

| Bridges | Cars | Vehicles | Passengers | | Pedestrians | Total People |
|---|--------|----------|------------|-------------|-------------|--------------|
| | | | In Cars | In Vehicles | | |
| Borough of Queens | | | | | | |
| Borden Avenue | 256 | 1,916 | 3,719 | 3,832 | 3,329 | 10,880 |
| Flushing | 332 | 25,996 | 4,094 | 51,992 | 397 | 56,483 |
| Strong's Causeway | 403 | 11,546 | 4,605 | 23,092 | 40 | 27,737 |
| Little Neck | ..... | 12,837 | ..... | 25,674 | 57 | 25,731 |
| Hunters Point Avenue | ..... | 5,791 | ..... | 11,582 | 1,655 | 13,237 |
| Hook Creek Canal | ..... | 8,052 | ..... | 16,104 | 51 | 16,155 |
| Hook Creek | ..... | 7,481 | ..... | 14,962 | 68 | 15,030 |
| Beach Channel | ..... | 15,627 | ..... | 44,423 | 355 | 44,778 |
| North Channel | ..... | 14,149 | ..... | 41,530 | 163 | 41,693 |
| Roosevelt Avenue | 4,474 | 14,397 | 65,950 | 28,794 | 439 | 95,183 |
| Nolins Avenue | ..... | 1,271 | ..... | 2,542 | 232 | 2,774 |
| Hawtree Basin | ..... | 867 | ..... | 2,708 | 207 | 2,915 |
| Borough of Richmond | | | | | | |
| Lemon Creek | ..... | 415 | ..... | 830 | 193 | 1,023 |
| Fresh Kills | ..... | 2,580 | ..... | 5,160 | 6 | 5,166 |
| Viaducts | | | | | | |
| Park Avenue (40th to 42nd Streets) | ..... | 42,308 | ..... | 84,616 | ..... | 84,616 |
| Riverside Drive (St. Clair Place to 135th Street) | ..... | 27,163 | ..... | 102,630 | 316 | 102,946 |
| Riverside Drive (153rd to 155th Streets) | ..... | 23,241 | ..... | 58,028 | 688 | 58,716 |
| 155th Street (over 8th Avenue) | 627 | 21,824 | 8,749 | 47,762 | 3,268 | 59,779 |
| Totals | 39,334 | 896,778 | 1,221,240 | 1,903,052 | 111,715 | 3,236,007 |

COMPARISON OF BRIDGE TRAFFIC IN 1933 WITH 1934
FOR 24 HOURS IN BOTH DIRECTIONS

| No. | Name of Bridge | Year | Passengers | | Pedes- trians | Total People | Total People* | |
|-----|---------------------|------|-----------------|----------|------------------|-----------------|---------------|----------|
| | | | Railway Cars | Vehicles | | | Increase | Decrease |
| 1 | Brooklyn | 1933 | 5,075 | 22,585 | 3,371 | 112,898 | ..... | 13,628 |
| | | 1934 | 4,497 | 23,818 | 3,675 | 126,118 | 13,220 | ..... |
| 2 | Manhattan | 1933 | 6,485 | 69,549 | 1,574 | 599,052 | 49,289 | ..... |
| | | 1934 | 6,229 | 83,874 | 1,566 | 628,902 | 29,910 | ..... |
| 3 | Williamsburg | 1933 | 4,883 | 45,217 | 2,278 | 394,189 | 16,483 | ..... |
| | | 1934 | 4,954 | 46,288 | 2,402 | 390,490 | ..... | 3,699 |
| 4 | Queensboro | 1933 | 2,742 | 99,829 | 1,671 | 285,741 | ..... | 54 |
| | | 1934 | 2,715 | 103,151 | 1,587 | 304,763 | 19,022 | ..... |
| 5 | Willis Avenue | 1933 | 379 | 33,866 | 3,581 | 79,311 | 367 | ..... |
| | | 1934 | 442 | 33,513 | 2,968 | 78,282 | ..... | 1,029 |
| 6 | Third Avenue | 1933 | 335 | 23,624 | 4,058 | 51,699 | ..... | 1,259 |
| | | 1934 | 393 | 21,474 | 2,987 | 46,858 | ..... | 4,841 |
| 7 | Madison Avenue | 1933 | 289 | 28,408 | 6,825 | 70,850 | 1,009 | ..... |
| | | 1934 | 288 | 30,527 | 6,112 | 71,339 | 489 | ..... |
| 8 | 145th Street | 1933 | 411 | 17,511 | 3,585 | 52,131 | ..... | 9,472 |
| | | 1934 | 442 | 18,331 | 3,868 | 54,702 | 2,571 | ..... |
| 9 | Macombs Dam | 1933 | 473 | 30,124 | 1,861 | 72,306 | 8,087 | ..... |
| | | 1934 | 627 | 28,170 | 2,018 | 67,107 | ..... | 5,199 |
| 10 | New York and Putnam | 1933 | ..... | ..... | 934 | 934 | 6 | ..... |
| | | 1934 | ..... | ..... | 568 | 568 | ..... | 366 |
| 11 | Washington | 1933 | 1,294 | 23,908 | 6,488 | 84,272 | ..... | 8,188 |
| | | 1934 | 1,464 | 25,459 | 6,412 | 83,348 | ..... | 924 |
| 12 | University Heights | 1933 | 371 | 12,785 | 833 | 33,894 | ..... | 9,899 |
| | | 1934 | 383 | 15,990 | 2,148 | 42,699 | 8,801 | ..... |
| 13 | Ship Canal | 1933 | 5,169 | 24,800 | 878 | 95,625 | ..... | 10,018 |
| | | 1934 | 5,198 | 34,894 | 1,686 | 124,770 | 29,145 | ..... |

COMPARISON OF BRIDGE TRAFFIC IN 1933 WITH 1934
FOR 24 HOURS IN BOTH DIRECTIONS
(Continued)

| No. | Name of Bridge | Year | Passengers | | Pedes- trians | Total People | Total People* | |
|-----|--------------------|------|-----------------|----------|------------------|-----------------|---------------|----------|
| | | | Railway Cars | Vehicles | | | Increase | Decrease |
| 17 | 135th Street | 1933 | ..... | 8,576 | 893 | 18,027 | 2,733 | ..... |
| | | 1934 | ..... | 5,529 | 768 | 11,826 | ..... | 6,201 |
| 18 | Westchester Avenue | 1933 | 1,238 | 17,253 | 6,334 | 63,099 | ..... | 22,101 |
| | | 1934 | 788 | 18,313 | 12,359 | 75,930 | 12,831 | ..... |
| 19 | Unionport | 1933 | ..... | 4,145 | 586 | 8,814 | ..... | 3,494 |
| | | 1934 | ..... | 4,923 | 1,085 | 10,931 | 2,117 | ..... |
| 20 | Pelham | 1933 | ..... | 10,478 | 202 | 23,342 | ..... | 5,429 |
| | | 1934 | ..... | 11,053 | 195 | 24,063 | 721 | ..... |
| 21 | City Island | 1933 | ..... | 4,989 | 262 | 12,768 | 649 | ..... |
| | | 1934 | ..... | 4,805 | 105 | 11,270 | ..... | 1,498 |
| 22 | Eastchester | 1933 | ..... | 16,430 | 412 | 34,824 | ..... | 1,650 |
| | | 1934 | ..... | 17,429 | 275 | 35,133 | 309 | ..... |
| 55 | 174th Street | 1933 | ..... | 6,792 | 8,101 | 21,681 | 543 | ..... |
| | | 1934 | ..... | 7,014 | 7,746 | 21,774 | 93 | ..... |
| 56 | Eastern Boulevard | 1933 | ..... | 3,060 | 705 | 6,823 | ..... | 3,159 |
| | | 1934 | ..... | 971 | 1,427 | 3,369 | ..... | 3,454 |
| 23 | Hamilton Avenue | 1933 | 856 | 13,682 | 2,096 | 41,905 | ..... | 7,078 |
| | | 1934 | 815 | 19,360 | 2,047 | 53,716 | 11,811 | ..... |
| 24 | Ninth Street | 1933 | 538 | 3,912 | 2,303 | 17,343 | ..... | 7,692 |
| | | 1934 | 390 | 4,200 | 2,546 | 17,055 | ..... | 288 |
| 25 | Third Street | 1933 | ..... | 4,807 | 1,899 | 11,513 | 744 | ..... |
| | | 1934 | ..... | 3,339 | 1,764 | 8,442 | ..... | 3,071 |
| 26 | Carroll Street | 1933 | ..... | 1,237 | 2,145 | 4,619 | ..... | 1,136 |
| | | 1934 | ..... | 1,158 | 2,173 | 4,489 | ..... | 130 |

DEPARTMENT OF PLANT AND STRUCTURES

COMPARISON OF BRIDGE TRAFFIC IN 1933 WITH 1934
FOR 24 HOURS IN BOTH DIRECTIONS
(Continued)

| No. | Name of Bridge | Year | Passengers | | Pedes- trians | Total People | Total People* | |
|-----|------------------------|------|-----------------|----------|------------------|-----------------|---------------|----------|
| | | | Railway Cars | Vehicles | | | Increase | Decrease |
| 27 | Union Street | 1933 | 324 | 6,375 | 3,139 | 20,225 | ..... | 960 |
| | | 1934 | 324 | 4,613 | 3,535 | 16,823 | ..... | 3,402 |
| 28 | Washington Avenue | 1933 | 529 | 13,831 | 1,703 | 40,545 | ..... | 4,961 |
| | | 1934 | 485 | 14,041 | 1,680 | 42,480 | 1,935 | ..... |
| 29 | Metropolitan Avenue | 1933 | 658 | 11,243 | 1,130 | 34,614 | 821 | ..... |
| | | 1934 | 682 | 13,415 | 1,215 | 38,980 | 4,366 | ..... |
| 30 | Harway Avenue | 1933 | ..... | 9,830 | 3,679 | 23,339 | 2,905 | ..... |
| | | 1934 | ..... | 6,521 | 3,553 | 16,595 | ..... | 6,744 |
| 31 | Third Avenue (Gowanus) | 1933 | 337 | 6,710 | 1,097 | 18,886 | ..... | 6,747 |
| | | 1934 | 316 | 8,404 | 1,214 | 22,964 | 4,078 | ..... |
| 32 | Ocean Avenue | 1933 | ..... | ..... | 2,272 | 2,272 | ..... | 178 |
| | | 1934 | ..... | ..... | 2,538 | 2,538 | 266 | ..... |
| 54 | Stillwell Avenue | 1933 | 423 | 5,523 | 748 | 13,358 | ..... | 2,811 |
| | | 1934 | 581 | 5,792 | 1,280 | 15,605 | 2,247 | ..... |
| 34 | Lemon Creek | 1933 | ..... | 475 | 131 | 1,081 | 31 | ..... |
| | | 1934 | ..... | 415 | 193 | 1,023 | ..... | 58 |
| 35 | Fresh Kills | 1933 | ..... | 2,978 | 35 | 5,991 | 746 | ..... |
| | | 1934 | ..... | 2,580 | 6 | 5,166 | ..... | 825 |
| 36 | Vernon Avenue | 1933 | 898 | 14,449 | 12,175 | 49,655 | ..... | 11,377 |
| | | 1934 | 954 | 15,130 | 10,024 | 49,141 | ..... | 514 |
| 37 | Greenpoint Avenue | 1933 | ..... | 17,059 | 1,772 | 39,058 | ..... | 3,576 |
| | | 1934 | ..... | 18,114 | 1,640 | 40,344 | 1,286 | ..... |
| 38 | Meeker Avenue | 1933 | ..... | 6,486 | 2,249 | 15,221 | 2,207 | ..... |
| | | 1934 | ..... | 5,662 | 2,758 | 14,082 | ..... | 1,139 |
| 39 | Grand Street | 1933 | 333 | 3,036 | 1,222 | 13,151 | 682 | ..... |
| | | 1934 | 275 | 4,042 | 327 | 13,613 | 462 | ..... |

COMPARISON OF BRIDGE TRAFFIC IN 1933 WITH 1934
FOR 24 HOURS IN BOTH DIRECTIONS
(Continued)

| No. | Name of Bridge | Year | Passengers | | | Pedes- trians | Total People | Total People* Increase Decrease |
|-----|----------------------|------|-----------------|----------|-----------------|------------------|-----------------|------------------------------------|
| | | | Railway Cars | Vehicles | Railway Cars | Vehicles | | |
| 41 | Borden Avenue | 1933 | 258 | 3,494 | 5,893 | 6,988 | 17,845 | 3,813 |
| | | 1934 | 256 | 1,916 | 3,719 | 3,832 | 10,880 | 6,965 |
| 42 | Flushing | 1933 | 313 | 19,639 | 4,824 | 39,278 | 44,494 | 1,787 |
| | | 1934 | 332 | 25,996 | 4,094 | 51,992 | 56,483 | 11,989 |
| 43 | Strong's Causeway | 1933 | 388 | 7,268 | 5,336 | 14,536 | 19,971 | 8,977 |
| | | 1934 | 403 | 11,546 | 4,605 | 23,092 | 27,737 | 7,766 |
| 44 | Little Neck | 1933 | | 11,859 | | 23,718 | 23,826 | 1,123 |
| | | 1934 | | 12,837 | | 25,674 | 25,731 | 1,905 |
| 45 | Hunters Point Avenue | 1933 | | 12,507 | | 25,014 | 27,317 | 5,277 |
| | | 1934 | | 5,791 | | 11,582 | 13,237 | 14,080 |
| 46 | Hook Creek Canal | 1933 | 130 | 6,415 | 690 | 12,842 | 13,497 | 2,681 |
| | | 1934 | | 8,052 | | 16,104 | 16,155 | 2,658 |
| 47 | Hook Creek | 1933 | | 4,705 | | 9,808 | 9,862 | 2,906 |
| | | 1934 | | 7,481 | | 14,962 | 15,030 | 5,168 |
| 48 | Beach Channel | 1933 | | 8,394 | | 18,217 | 18,314 | 2,199 |
| | | 1934 | | 15,627 | | 44,423 | 44,778 | 26,464 |
| 49 | North Channel | 1933 | | 9,035 | | 20,091 | 20,180 | 57 |
| | | 1934 | | 14,149 | | 41,530 | 41,693 | 21,513 |
| 50 | Roosevelt Avenue | 1933 | 4,412 | 16,561 | 61,204 | 33,122 | 94,649 | 6,167 |
| | | 1934 | 4,474 | 14,397 | 65,950 | 28,794 | 95,183 | 534 |
| 51 | Nolins Avenue | 1933 | | 747 | | 1,494 | 1,726 | 144 |
| | | 1934 | | 1,271 | | 2,542 | 2,774 | 1,048 |
| 52 | Hawtree Basin | 1933 | | 356 | | 712 | 1,236 | 791 |
| | | 1934 | | 867 | | 2,708 | 2,915 | 1,679 |

COMPARISON OF BRIDGE TRAFFIC IN 1933 WITH 1934
FOR 24 HOURS IN BOTH DIRECTIONS
(Continued)

| No. | Name of Viaduct | Year | Railway | | Passengers | | Pedes- trians | Total People | Total People* | |
|-------------------------------------|--|------|---------|----------|-----------------|-----------|------------------|-----------------|---------------|----------|
| | | | Cars | Vehicles | Railway Cars | Vehicles | | | Increase | Decrease |
| VIADUCTS | | | | | | | | | | |
| 1 | Park Avenue (40th to 42nd Streets) | 1933 | ..... | 43,863 | ..... | 87,726 | ..... | 87,726 | ..... | 12,998 |
| | | 1934 | ..... | 42,308 | ..... | 84,616 | ..... | 84,616 | ..... | 3,110 |
| 2 | Riverside Drive (St. Clair Pl. to 135th St.) | 1933 | ..... | 22,273 | ..... | 77,626 | ..... | 77,930 | ..... | 5,002 |
| | | 1934 | ..... | 27,163 | ..... | 102,630 | ..... | 102,946 | ..... | 25,016 |
| †3 | Riverside Drive (153rd to 155th Streets) | 1933 | ..... | 17,934 | ..... | 44,948 | ..... | 45,473 | ..... | + |
| | | 1934 | ..... | 23,241 | ..... | 58,028 | ..... | 58,716 | ..... | 13,243 |
| 4 | 155th Street (over 8th Avenue) | 1933 | 473 | 18,062 | 9,443 | 42,262 | 4,684 | 56,389 | 8,871 | ..... |
| | | 1934 | 627 | 21,824 | 8,749 | 47,762 | 3,268 | 59,779 | 3,390 | ..... |
| Totals | | | | | | | | | | |
| | | 1933 | 40,014 | 828,674 | 1,188,626 | 1,736,904 | 109,961 | 3,035,491 | 115,378 | 169,584 |
| | | 1934 | 39,334 | 896,778 | 1,221,240 | 1,903,052 | 111,715 | 3,236,007 | †254,810 | 67,537 |
| Increase (+); Decrease (-); Between | | | | | | | | | | |
| 1933 and 1934 | | | | | | | | | | |
| Percentage of Change | | | | | | | | | | |
| | | | -680 | +68,104 | +32,614 | +166,148 | +1,754 | +200,516 | ..... | ..... |
| | | | -170 | +8,222 | +2,74 | +9,56 | +1,60 | +6,61 | ..... | ..... |
| Grand Total for 1934 | | | | | | | | | | |
| | | | 39,334 | 896,778 | 1,221,240 | 1,903,052 | 111,715 | 3,236,007 | 268,053 | 67,537 |

†Not included in total for comparison with 1932.

*Comparison with previous year
Upper lines—1933 with 1932.
Lower lines—1934 with 1933.

Queensboro Bridge

Figures are the average of 4 days of enumeration: Saturday, May 26, Monday, May 28, Tuesday, May 29 and Thursday, May 31, 1934.

Manhattan Bridge

Figures are the average of 3 days of enumeration: Saturday, June 2, Monday, June 4 and Tuesday, June 5, 1934.

Williamsburg Bridge

Figures are the average of 3 days of enumeration: Friday, June 29, Saturday, June 30 and Monday, June 2, 1934.

Brooklyn Bridge

Figures are the average of 3 days of enumeration: Saturday, August 18, Monday, August 20 and Tuesday, August 21, 1934.

COMPARISON OF AUTOMOBILES WITH OTHER VEHICLES

TRAFFIC COUNT TAKEN—1934

THE CHANGE IN MOTIVE POWER FROM HORSES TO MOTOR VEHICLES IS SHOWN BELOW, COMPARED WITH THE FIGURES FOR 1933; IF INCREASING CAPACITIES OF THE MOTOR TRUCKS COULD BE CALCULATED STILL GREATER VOLUME OF COMMERCIAL TRAFFIC WOULD BE SHOWN

| No. | Bridges | 1933 | | | | 1934 | | | |
|-----|--------------------|---|-------------|---|-------------|---|-------------|---|-------------|
| | | Auto-mobiles | | Other Vehicles | | Auto-mobiles | | Other Vehicles | |
| | | Passenger Autos, Buses Motor Trucks and Taxis | Horse Drawn | Passenger Autos, Buses Motor Trucks and Taxis | Horse Drawn | Passenger Autos, Buses Motor Trucks and Taxis | Horse Drawn | Passenger Autos, Buses Motor Trucks and Taxis | Horse Drawn |
| 1 | Brooklyn | 22,400 | 185 | 22,585 | 99.2 | 23,729 | 89 | 23,818 | 99.6 |
| 2 | Manhattan | 69,549 | | 69,549 | 100 | 83,874 | | 83,874 | 100 |
| 3 | Williamsburg | 44,862 | 355 | 45,217 | 99.2 | 46,152 | 136 | 46,288 | 99.7 |
| 4 | Queensboro | 99,634 | 195 | 99,829 | 99.8 | 103,132 | 19 | 103,151 | 99.9 |
| 5 | Willis Avenue | 33,351 | 515 | 33,866 | 98.5 | 33,203 | 310 | 33,513 | 99.1 |
| 6 | Third Avenue | 23,274 | 350 | 23,624 | 98.5 | 21,224 | 250 | 21,474 | 98.8 |
| 7 | Madison Avenue | 28,268 | 140 | 28,408 | 99.5 | 30,387 | 140 | 30,527 | 99.5 |
| 8 | 145th Street | 17,400 | 111 | 17,511 | 99.4 | 18,247 | 84 | 18,331 | 99.5 |
| 9 | Macombs Dam | 36,032 | 92 | 30,124 | 99.7 | 28,026 | 144 | 28,170 | 99.5 |
| 11 | Washington | 23,870 | 38 | 23,908 | 99.8 | 25,433 | 26 | 25,459 | 99.9 |
| 12 | University Heights | 12,751 | 34 | 12,785 | 99.7 | 15,958 | 32 | 15,990 | 99.8 |
| 13 | Ship Canal | 24,721 | 79 | 24,800 | 99.7 | 34,811 | 83 | 34,894 | 99.8 |
| 17 | 135th Street | 8,472 | 104 | 8,576 | 98.8 | 5,454 | 75 | 5,529 | 98.6 |
| 18 | Westchester Avenue | 17,181 | 72 | 17,253 | 99.6 | 18,137 | 176 | 18,313 | 99.0 |
| 19 | Unionport | 4,136 | 9 | 4,145 | 99.8 | 4,915 | 8 | 4,923 | 99.6 |
| 20 | Pelham | 10,465 | 13 | 10,478 | 99.9 | 11,016 | 37 | 11,053 | 99.7 |
| 21 | City Island | 4,984 | 5 | 4,989 | 99.9 | 4,803 | 2 | 4,805 | 99.9 |
| 22 | Eastchester | 16,417 | 13 | 16,430 | 99.9 | 17,371 | 58 | 17,429 | 99.7 |
| 55 | 174th Street | 6,751 | 41 | 6,792 | 99.4 | 6,991 | 23 | 7,014 | 99.7 |
| 56 | Eastern Boulevard | 3,036 | 24 | 3,060 | 99.2 | 950 | 21 | 971 | 97.8 |

COMPARISON OF AUTOMOBILES WITH OTHER VEHICLES

TRAFFIC COUNT TAKEN—1934

(Continued)

THE CHANGE IN MOTIVE POWER FROM HORSES TO MOTOR VEHICLES IS SHOWN BELOW, COMPARED WITH THE FIGURES FOR 1933; IF INCREASING CAPACITIES OF THE MOTOR TRUCKS COULD BE CALCULATED STILL GREATER VOLUME OF COMMERCIAL TRAFFIC WOULD BE SHOWN

| No. | Bridges | 1933 | | | | | 1934 | | | | | |
|-----|------------------------|--|----------------|--|----------------|---|------------------|-----|-------------------|------|-------|---|
| | | Auto- mobiles | | Other Vehicles | | Per- centage of Auto- mobiles | Auto- mobiles | | Other Vehicles | | Total | Per- centage of Auto- mobiles |
| | | Passenger Autos, Buses Motor Trucks and Taxis | Horse Drawn | Passenger Autos, Buses Motor Trucks and Taxis | Horse Drawn | | | | | | | |
| 23 | Hamilton Avenue | 13,682 | | 13,682 | 100 | 100 | 19,218 | 142 | 19,360 | 99.3 | | |
| 24 | Ninth Street | 3,829 | 83 | 3,912 | 97.9 | 97.9 | 4,162 | 38 | 4,200 | 99.1 | | |
| 25 | Third Street | 4,669 | 138 | 4,807 | 97.1 | 97.1 | 3,256 | 83 | 3,339 | 97.5 | | |
| 26 | Carroll Street | 1,183 | 54 | 1,237 | 95.6 | 95.6 | 1,118 | 40 | 1,158 | 96.5 | | |
| 27 | Union Street | 6,209 | 166 | 6,375 | 97.4 | 97.4 | 4,490 | 123 | 4,613 | 97.3 | | |
| 28 | Washington Avenue | 13,831 | | 13,831 | 100 | 100 | 13,911 | 130 | 14,041 | 99.1 | | |
| 29 | Metropolitan Avenue | 11,243 | | 11,243 | 100 | 100 | 13,299 | 116 | 13,415 | 99.1 | | |
| 30 | Harway Avenue | 9,739 | 91 | 9,830 | 99.1 | 99.1 | 6,454 | 67 | 6,521 | 99.0 | | |
| 31 | Third Avenue (Gowanus) | 6,593 | 117 | 6,710 | 98.3 | 98.3 | 8,306 | 98 | 8,404 | 98.8 | | |
| 34 | Lemon Creek | 474 | 1 | 475 | 99.8 | 99.8 | 412 | 3 | 415 | 99.3 | | |
| 35 | Fresh Kills | 2,972 | 6 | 2,978 | 99.8 | 99.8 | 2,576 | 4 | 2,580 | 99.8 | | |
| 36 | Vernon Avenue | 14,449 | | 14,449 | 100 | 100 | 15,044 | 86 | 15,130 | 99.4 | | |
| 37 | Greenpoint Avenue | 17,059 | | 17,059 | 100 | 100 | 18,083 | 31 | 18,114 | 99.8 | | |
| 38 | Meeker Avenue | 6,383 | 103 | 6,486 | 98.4 | 98.4 | 5,631 | 31 | 5,662 | 99.5 | | |
| 39 | Grand Street | 2,990 | 46 | 3,036 | 98.5 | 98.5 | 4,007 | 35 | 4,042 | 99.1 | | |
| 41 | Borden Avenue | 3,322 | 172 | 3,494 | 95.1 | 95.1 | 1,903 | 13 | 1,916 | 99.3 | | |
| 42 | Flushing | 19,639 | | 19,639 | 100 | 100 | 25,869 | 127 | 25,996 | 99.5 | | |

COMPARISON OF AUTOMOBILES WITH OTHER VEHICLES

TRAFFIC COUNT TAKEN—1934

(Continued)

THE CHANGE IN MOTIVE POWER FROM HORSES TO MOTOR VEHICLES IS SHOWN BELOW, COMPARED WITH THE FIGURES FOR 1933; IF INCREASING CAPACITIES OF THE MOTOR TRUCKS COULD BE CALCULATED STILL GREATER VOLUME OF COMMERCIAL TRAFFIC WOULD BE SHOWN

| No. | Bridges | 1933 | | | | 1934 | | | |
|--------------|--|--|-------|-------------------|--|--|-------|-------------------|--|
| | | Auto-mob- iles | | Other Vehicles | | Auto-mob- iles | | Other Vehicles | |
| | | Passenger Autos, Buses Motor Trucks and Taxis | Horse | Total | Per- centage of Auto- mob- iles | Passenger Autos, Buses Motor Trucks and Taxis | Horse | Total | Per- centage of Auto- mob- iles |
| | | | | | | | | | |
| 43 | Strong's Causeway | 7,230 | 38 | 7,268 | 99.5 | 11,506 | 40 | 11,546 | 99.6 |
| 44 | Little Neck | 11,847 | 12 | 11,859 | 99.9 | 12,820 | 17 | 12,837 | 99.9 |
| 45 | Hunters Point Avenue | 12,493 | 14 | 12,507 | 99.9 | 5,789 | 2 | 5,791 | 99.9 |
| 46 | Hook Creek Canal | 6,410 | 5 | 6,415 | 99.9 | 8,049 | 3 | 8,052 | 99.9 |
| 47 | Hook Creek | 4,692 | 13 | 4,705 | 99.7 | 7,403 | 78 | 7,481 | 99.0 |
| 48 | Beach Channel | 8,379 | 15 | 8,394 | 99.8 | 15,620 | 7 | 15,627 | 99.9 |
| 49 | North Channel | 9,025 | 10 | 9,035 | 99.9 | 14,148 | 1 | 14,149 | 99.9 |
| 50 | Roosevelt Avenue | 16,561 | ... | 16,561 | 100 | 14,349 | 48 | 14,397 | 99.7 |
| 51 | Nolins Avenue | 747 | ... | 747 | 100 | 1,243 | 28 | 1,271 | 97.8 |
| 52 | Hawtree Basin | 354 | 2 | 356 | 99.4 | 857 | 10 | 867 | 98.8 |
| 54 | Stillwell Avenue | 5,477 | 46 | 5,523 | 99.2 | 5,744 | 48 | 5,792 | 99.2 |
| VIADUCTS | | | | | | | | | |
| 1 | Park Avenue (40th to 42nd Streets) | 43,863 | ... | 43,863 | 100 | 42,308 | ... | 42,308 | 100 |
| 2 | Riverside Dr. (St. Clair Pl. to 135th St.) | 22,273 | ... | 22,273 | 100 | 27,163 | ... | 27,163 | 100 |
| 3 | 155th Street (over 8th Avenue) | 17,962 | 100 | 18,062 | 99.4 | 21,673 | 151 | 21,824 | 99.3 |
| 4 | Riverside Drive (153rd to 155th Sts.) | 17,931 | 3 | 17,934 | 99.9 | 23,241 | ... | 23,241 | 100 |
| Totals | | 825,064 | 3,610 | 828,674 | 99.6 | 893,465 | 3,313 | 896,778 | 99.6 |

DEPARTMENT OF PLANT AND STRUCTURES

BRIDGE OPENINGS—1934 TO PERMIT PASSAGE OF VESSELS

| No. | Bridges | Total Openings | Average Time per Opening in Minutes | Boats Passing at Openings | Boats Passing Under Bridge Draw Closed |
|--------------------------------|-------------------------------|-------------------|---|------------------------------------|---|
| <i>Harlem River Bridges</i> | | | | | |
| 5 | Willis Avenue | 1,524 | 6.30 | 3,533 | 57,319 |
| 6 | Third Avenue | 1,165 | 6.30 | 2,487 | 36,834 |
| 7 | Madison Avenue | 756 | 5.40 | 1,648 | 27,935 |
| 8 | 145th Street | 661 | 5.60 | 1,277 | 30,626 |
| 9 | Maconbs Dam | 440 | 6.30 | 547 | 35,104 |
| 12 | University Heights | 414 | 6.30 | 386 | 25,627 |
| 13 | Ship Canal | 331 | 6.00 | 547 | 7,856 |
| <i>Bronx Bridges</i> | | | | | |
| 17 | 135th Street | 642 | 4.20 | 315 | ..... |
| 56 | Eastern Boulevard | 1,201 | 5.10 | 2,059 | 4,345 |
| 18 | Westchester Avenue | 916 | 5.70 | 933 | 132 |
| 19 | Unionport | 1,562 | 5.00 | 2,296 | 256 |
| 20 | Pelham | 4,488 | 4.90 | 8,036 | 1,364 |
| 21 | City Island ..... | ..... | ..... | ..... | 5,590 |
| 22 | Eastchester | 4,171 | 5.50 | 8,051 | 13 |
| <i>Brooklyn Bridges</i> | | | | | |
| 23 | Hamilton Avenue | 5,052 | 2.96 | 12,144 | 4,984 |
| 24 | Ninth Street | 8,786 | 3.99 | 16,992 | ..... |
| 25 | Third Street | 4,375 | 4.01 | 7,780 | 85 |
| 26 | Carroll Street | 3,215 | 4.05 | 5,888 | ..... |
| 27 | Union Street | 2,205 | 3.59 | 3,836 | ..... |
| 28 | Washington Avenue | 1,798 | 4.71 | 1,902 | ..... |
| 29 | Metropolitan Avenue | 4,077 | 5.48 | 7,404 | ..... |
| 30 | Cropsey (Harway) Avenue | 2,066 | 5.32 | 2,891 | 4,815 |
| 54 | Stillwell Avenue | 757 | 10.48 | 1,732 | 2,483 |
| <i>Richmond Bridges</i> | | | | | |
| 34 | Lemon Creek | 122 | 21.80 | 133 | 111 |
| 35 | Fresh Kills ..... | ..... | ..... | ..... | ..... |
| <i>Brooklyn-Queens Bridges</i> | | | | | |
| 36 | Vernon Avenue | 14,748 | 4.09 | 32,380 | 29,186 |
| 37 | Greenpoint Avenue | 12,389 | 3.88 | 24,777 | 35,877 |
| 38 | Meeker Avenue | 12,593 | 4.34 | 22,063 | ..... |
| 39 | Grand Street | 736 | 6.19 | 974 | ..... |
| <i>Queens Bridges</i> | | | | | |
| 41 | Borden Avenue | 1,784 | 4.77 | 2,384 | 1,216 |
| 42 | Flushing | 3,637 | 4.52 | 7,206 | 361 |
| 43 | Strongs Causeway | 29 | 30.10 | 87 | ..... |
| 45 | Hunters Point Avenue | 1,070 | 4.29 | 1,579 | 526 |
| 48 | Beach Channel | 1,901 | 4.73 | 2,865 | 10,119 |
| 49 | North Channel | 7 | 8.43 | 3 | 2,649 |
| 50 | Roosevelt Avenue | 263 | 4.99 | 517 | 2,378 |
| 51 | Nolins Avenue | 1 | 10.00 | 1 | 1,126 |
| 52 | Hawtree Basin ..... | ..... | ..... | ..... | 2,807 |
| Totals | | 99,882 | ..... | 187,653 | 331,724 |

BUREAU OF FERRIES

BUREAU OF FERRIES

INTRODUCTION

Operation was maintained on seven (7) Municipal Ferry Lines and seven (7) Institutional Lines.

During the year there were carried on the Municipal Ferries a total of 26,292,060 passengers and 2,491,064 vehicles. Comparing the decreases in number of passengers and vehicles carried in 1934 with the decreases in 1933, a material reduction in the number of passengers and vehicles carried is noteworthy. In one instance, that of the Whitehall Street, Manhattan, St. George, Staten Island Line, there was an increase in the number of passengers carried.

During the year the Institutional Lines carried 2,665,981 passengers, an increase of 197,834 over the year 1933; 51,775 vehicles, an increase of 5,308 over the year 1933; and 44,366 tons of freight.

DEPARTMENT OF PLANT AND STRUCTURES

MUNICIPAL FERRY LINES
OPERATING STATISTICS

| Lines | Daily Service | | Round Trips | Mileage | Passengers Carried | | Vehicles Carried | | Operating Revenue |
|--|---------------|--------------------------|----------------|---------|--------------------|------------|------------------|-----------|----------------------|
| | Week-Days | Hours and Holidays | | | 1934 | 1933 | 1934 | 1933 | |
| Whitehall Street, Manhattan— St. George, S. I. | 24 | 24 | 31,444 | 314,440 | 21,523,689 | 21,475,379 | 820,451 | 835,278 | \$1,648,312.17 |
| South Street, Manhattan— 39th Street, Brooklyn | 16 | .... | 7,678 | 46,068 | 152,555 | 172,973 | 33,438 | 39,727 | 33,259.74 |
| Saturdays, beginning June 9 | 6½ | .... |  |  |  |  |  |  |  |
| Monday to Fridays, inclusive, beginning October 25 | 12 | .... |  |  |  |  |  |  |  |
| St. George, Staten Island— 39th Street, Brooklyn | 24 | 24 | 14,649½ | 87,897 | 951,001 | 974,588 | 238,174 | 261,877 | 199,121.28 |
| South Street, Manhattan— Hamilton Avenue, Brooklyn | 16 | 16* | 9,189 | 18,378 | 567,807 | 620,063 | 19,437 | 23,130 | 40,152.09 |
| *Except Sundays and holidays beginning July 4th | | | | | | | | | |
| East 92nd Street, Manhattan— Astoria, Queens | 24 | 24 | 21,058 | 21,479 | 702,692 | 778,173 | 117,283 | 139,442 | 85,108.88 |
| Beginning September 16 | 20 | 20 | | | | | | | |
| Clason Point, Bronx— College Point, Queens | 24 | 24 | 44,739 | 136,901 | 1,752,497 | 1,857,340 | 1,117,473 | 1,179,156 | 546,809.47 |
| Flatbush Avenue, Brooklyn— Beach 169th Street, Rockaway | 24 | 24 | 17,231½ | 24,469 | 641,819 | 672,331 | 144,808 | 157,759 | 92,103.86 |
| Beginning November 22 | 16 | 16 | | | | | | | |
| Totals | | | 145,989 | 649,632 | 26,292,060 | 26,550,847 | 2,491,064 | 2,636,369 | \$2,644,867.49 |

ANNUAL REPORT—BUREAU OF FERRIES

Lines in Operation*—1934

Municipal Ferries

| FROM | and | TO | Distance One Way | Commencement of Operation |
|-----------------------------|-----|---------------------------|---------------------|------------------------------|
| Whitehall Street, Manhattan | — | St. George, Staten Island | 5. M. | 10/25/05 |
| St. George, Staten Island | — | 39th Street, Brooklyn | 3. M. | 6/14/24 |
| South Street, Manhattan | — | 39th Street, Brooklyn | 3. M. | 11/1/06 |
| South Street, Manhattan | — | Hamilton Avenue, Brooklyn | 1. M. | 12/17/22 |
| East 92nd Street, Manhattan | — | Astoria, Queens | .51 M. | 9/27/20 |
| Clason Point, Bronx | — | College Point, Queens | 1.53 M. | 8/6/21 |
| Flatbush Avenue, Brooklyn | — | Rockaway Beach, Queens | .71 M. | 10/24/25 |

*Hours of service and operating statistics for the Municipal Ferry Lines are given on page 77.

Institutional Lines

(Operation began January 1, 1923)

| | |
|--|--------|
| East 25th Street, Manhattan, via Penitentiary and Workhouse Docks, Welfare Island and Rikers Island to Hart's Island | 16. M. |
| East 25th Street, Manhattan to Storehouse and Workhouse Docks, Welfare Island and Randall's Island | 4.3 M. |
| City Island to Hart's Island | .37 M. |
| East 134th Street, Bronx, to North Brother's Island | .4 M. |
| East 134th Street, Bronx, to Riker's Island | 1.0 M. |
| East 125th Street, Manhattan, to Randall's Island | .12 M. |
| East 86th Street, Manhattan, to Metropolitan Hospital, Welfare Island | .77 M. |

Commencing April 15, 1934 free transportation over the East 86th Street Ferry was discontinued and a charge of ten cents per person per round trip was put into effect in accordance with resolution of the Commissioners of the Sinking Fund. Beginning April 15th this line carried 179,706 paying round-trip passengers.

THE MUNICIPAL FERRY FLEET

VESSELS OWNED AND OPERATED BY THE DEPARTMENT 1934

| Name | Year Built | Year Acquired by City | Type | Hull | Overall Length Feet | Breadth Feet | Draft Feet | Gross Tons | Horse Power |
|-----------------|---------------|--------------------------------|--------|-------|---------------------------|-----------------|---------------|---------------|----------------|
| Bronx | 1905 | 1905 | D.E.F. | Steel | 250 | 66 | 12.4 | 1954 | 3500 |
| Brooklyn | 1905 | 1905 | D.E.F. | Steel | 250 | 66 | 12.4 | 1954 | 3500 |
| Manhattan | 1905 | 1905 | D.E.F. | Steel | 250 | 66 | 12.4 | 1954 | 3500 |
| Queens | 1905 | 1905 | D.E.F. | Steel | 250 | 66 | 12.4 | 1954 | 3500 |
| Richmond | 1905 | 1905 | D.E.F. | Steel | 250 | 66 | 12.4 | 2006 | 3500 |
| Mayor Gaynor | 1913 | 1913 | D.E.F. | Steel | 231 | 64 | 11.5 | 1009 | 1950 |

DEPARTMENT OF PLANT AND STRUCTURES

THE MUNICIPAL FERRY FLEET
VESSELS OWNED AND OPERATED BY THE DEPARTMENT
1934

(Continued)

| Name | Year Built | Year Acquired by City | Type | Hull | Overall Length Feet | Breadth Feet | Draft Feet | Gross Tons | Horse Power |
|------------------------|---------------|--------------------------------|--------|-------|---------------------------|-----------------|---------------|---------------|----------------|
| President Roosevelt | 1921 | 1921 | D.E.F. | Steel | 250 | 66 | 12.4 | 1907 | 3500 |
| American Legion | 1926 | 1926 | D.E.F. | Steel | 264 | 66 | 12.67 | 2089 | 4000 |
| Dongan Hills | 1929 | 1929 | D.E.F. | Steel | 267 | 66 | 12.6 | 2029 | 4000 |
| Tompkinsville | 1930 | 1930 | D.E.F. | Steel | 267 | 66 | 12.6 | 2045 | 4000 |
| Knicker- bocker | 1931 | 1931 | D.E.F. | Steel | 267 | 66 | 12.6 | 2045 | 4000 |
| Bay Ridge | 1907 | 1907 | D.E.F. | Steel | 209 | 64 | 11.0 | 862 | 1900 |
| Gowanus | 1907 | 1907 | D.E.F. | Steel | 209 | 64 | 11.0 | 862 | 1900 |
| Nassau | 1907 | 1907 | D.E.F. | Steel | 209 | 64 | 11.0 | 862 | 1900 |
| Whitehall | 1923 | 1923 | D.E.F. | Steel | 218 | 64 | 11.9 | 875 | 2200 |
| West Brighton | 1923 | 1923 | D.E.F. | Steel | 218 | 64 | 11.9 | 875 | 2200 |
| Rodman Wanamaker | 1923 | 1923 | D.E.F. | Steel | 218 | 64 | 11.9 | 875 | 2200 |
| Tremont | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Astoria | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Elmhurst | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Flatbush | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Flushing | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Rockaway | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Harlem | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Sea Gate | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Williamsburg | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Stuyvesant | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Jamaica | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Bushwick | 1925 | 1925 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Melrose | 1929 | 1929 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Yorkville | 1929 | 1929 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Murray Hill | 1931 | 1931 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Washington Square | 1931 | 1931 | D.E.F. | Steel | 151 | 53 | 8.55 | 593 | 850 |
| Florida | 1896 | 1921 | S.W.F. | Iron | 171 | 62 | 8.3 | 818 | 500 |
| Wyoming | 1885 | 1921 | S.W.F. | Iron | 186 | 62 | 8.4 | 833 | 600 |
| Greenpoint | 1898 | 1921 | S.W.F. | Steel | 187 | 64 | 8.0 | 901 | 650 |
| Atlantic | 1885 | 1922 | S.W.F. | Steel | 196 | 62.5 | 7.3 | 930 | 500 |
| Macom | 1894 | 1921 | T.S.S. | Steel | 144 | 24 | 8.5 | 235 | 550 |
| No. 69 | 1918 | 1928 | S.S.S. | Wood | 88 | 20.8 | 10.0 | 103 | 350 |

ANNUAL REPORT—BUREAU OF FERRIES

THE MUNICIPAL FERRY FLEET
VESSELS OWNED AND OPERATED BY THE DEPARTMENT
1934

(Continued)

| Name | Year Built | Year Acquired by City | Type | Hull | Overall Length Feet | Breadth Feet | Draft Feet | Gross Tons | Horse Power |
|----------------------|---------------|--------------------------------|--------|-------|---------------------------|-----------------|---------------|---------------|----------------|
| INSTITUTIONAL BOATS | | | | | | | | | |
| Fordham | 1922 | 1922 | D.E.F. | Steel | 90 | 30 | 7.3 | 190 | 200 |
| Greenwich Village | 1927 | 1928 | D.E.F. | Steel | 101.6 | 30 | 7.3 | 246 | 300 |
| Mott Haven | 1927 | 1928 | D.E.F. | Steel | 101.6 | 30 | 7.3 | 246 | 300 |
| Chelsea | 1930 | 1930 | D.E.F. | Steel | 101.6 | 30 | 7.3 | 246 | 300 |
| Col. Clayton | 1919 | 1923 | T.S.S. | Steel | 130 | 30 | 10.3 | 364 | 700 |
| Riverside | 1906 | 1906 | S.S.S. | Steel | 127 | 30 | 8.7 | 300 | 550 |
| *Harts Island | 1910 | 1910 | S.S.S. | Wood | 75 | 18 | 6.6 | 66 | 175 |
| Service #2 | 1914 | 1922 | S.S.S. | Wood | 80 | 17.5 | 7.0 | 70 | 110 |
| Welfare | 1930 | 1930 | S.S.S. | Steel | 106 | 26 | 9.6 | 255 | 450 |

NOTES

D.E.F. — Double-end Ferryboat
S.W.F.— Side-wheel Ferryboat

S.S.S. — Single-screw Steamer
T.S.S. — Twin-screw Steamer

*Sold Oct. 10, 1934.

Floating Equipment

1934

| | |
|------------------------------|----|
| Ferryboats | 41 |
| Institutional Steamers | 4 |
| Towboats | 3 |
| Oil Barges | 3 |

WORK BOATS—

| | |
|-----------------------------|----|
| Floating Pile Drivers | 6 |
| Floating Derricks | 2 |
| Derrick Scow | 1 |
| Deck Scow | 1 |
| Diving Scow | 1 |
| Catamarans | 5 |
| Total | 16 |
| | 67 |

Pennsylvania R. R. Ferry

Atlantic Avenue, Brooklyn—Exchange Place, Jersey City, N. J.

This ferry, which operates for vehicles only, was inaugurated on January 19, 1929. During the year 1934 it carried 234,851 vehicles, 35,902 more than in 1933.

This ferry operated two boats daily, one 16 hours and the other 10 hours.

MUNICIPAL SHIPYARD

During the year the Municipal Shipyard, located at St. George, Staten Island, carried on all maintenance and repair work of the municipal ferryboats, steamers, barges and work boats such as pile drivers, scows, etc., other than such work as required drydocking. The outstanding repairs were:

Reconstruction of the guards, complete overhauling of the machinery, recanvassing of weather decks, repairs to and painting of the superstructure of Ferryboat "Manhattan"; widening of the gangways of the Ferryboats "Williamsburg," "Bushwick," "Flushing" and "Rockaway" to accommodate heavy trucking; repainting and relettering of the interiors of five and exteriors of eight boats; overhauling and repairing thirty-five boats for inspection by the United States Steamboat Inspection Service.

Drydocking of Boats

During the year the following boats went on drydock for underwater repairs, hull painting, etc.:

Ferryboats

| | |
|-----------------------|----------------|
| "Knickerbocker" | "Murray Hill" |
| "Tompkinsville" | "Fordham" |
| "President Roosevelt" | "Jamaica" |
| "American Legion" | "Rockaway" |
| "Dongan Hills" | "Flatbush" |
| "Queens" | "Elmhurst" |
| "Brooklyn" | "Bushwick" |
| "Manhattan" | "Melrose" |
| "Richmond" | "Flushing" |
| "Mott Haven" | "Williamsburg" |
| "Greenwich Village" | "Astoria" |
| "Chelsea" | "Harlem" |

Steamers

| | |
|----------------|-----------------|
| "Riverside" | "Macom" |
| "Col. Clayton" | "Service No. 2" |
| "Welfare" | "No. 69" |

Oil Barges

No. 1, No. 2, No. 3

TERMINAL IMPROVEMENTS

At Clason Point, College Point and Astoria routine maintenance and repairs to the terminal buildings as well as general maintenance and repair of plumbing, lighting and power systems were carried on. Installed lighting system in gallows frame towers.

In addition to routine maintenance and repairs to terminal buildings, operating equipment, bridges, slips, lighting, plumbing and heating systems, the work of reconstruction and improvements included the following:

92ND STREET TERMINAL

Rebuilt cantilever truss and strengthened gallows frame foundation of south bridges.

SOUTH STREET TERMINAL

The work was completed for rebuilding and redecking the buffer platforms of Slips 5 and 7. Installed a lighting system in all gallows frame towers. Continued extensive repairs to roofs, and exterior walls of terminal.

WHITEHALL TERMINAL

New structural supports and new machinery for operating the upper bridges of Slip 2 were installed. Piping of the heating systems, both in boiler room and on the dock was completely covered with insulation. Work was begun for the repair to roof of the fourth story of terminal.

St. GEORGE TERMINAL

In addition to the routine maintenance and repair of a like nature carried on at all terminals, repairs to coal hoist, shops, plant machinery and motor vehicles were carried on. Completed painting of steel work of Bus Platform. Continued extensive work of making repairs to the structural steel work and replacing reinforced concrete deck of Bus Platform. This work was approximately 36% completed at the close of the year.

DEPARTMENT OF PLANT AND STRUCTURES

Work was begun on the installation of new electrical equipment feeds and conduits, for connecting boiler room and machine shop to the recently constructed transformer vault. A new generator set for operating the turnstiles was installed. New electrical feeders were installed between the Health Department Building and the recently constructed transformer vault. A meter and service equipment was installed at Pier 17, Stapleton.

All material stored at Pier 13 was moved by emergency workers to Pier 17, Stapleton. This material consists in the main of timber and piling; the move was necessitated because Pier 13 had been leased by the Department of Docks.

All piping in boiler room was covered with insulation. All machinery in boiler room, including air compressors, was completely overhauled and a new reservoir tank was installed for one of the compressors.

The exterior of the wood working mill and paint shop was painted.

On March 24, 1933, the Board of Estimate and Apportionment approved funds to the amount of \$146,000 for the reconstruction of the viaduct approach to this terminal, and on March 27, 1933 a contract for the work and to the amount of \$132,000 was awarded. The work of the contractor began on April 19, 1933 and the structure was completed and accepted on November 15, 1934.

A building formerly used as a temporary waiting room at Hamilton Avenue Terminal was moved from that location to St. George, set up on the dock adjacent to Slip 5, repaired, wired and painted and opened for use as a waiting room for the 39th Street, Brooklyn Ferry on November 28, 1934. This waiting room was necessary as the area formerly used as a waiting room for the 39th Street, Brooklyn Ferry, in the terminal building was to be used as an entrance and exit for passengers on and off ferryboats at Slip 4.

Work on the construction of a temporary structure complete with passenger runways, aprons, etc., connecting the waiting room of the upper level of the terminal building to the upper decks of boats in Slip 4 was begun on November 28th. The purpose of this structure is to provide an additional slip with two deck levels, similar to Slips 1 and 3, during the time that Slip 1 will be closed for reconstruction of its racks, which work will be undertaken as soon as the upper level connection to Slip 4 is available for use.

Completed the reconstruction of racks of Slip 5.

39TH STREET TERMINAL

Completed the work of underpinning, constructing new foundations and the erection of new steel on the inshore front of the terminal building. The interior walls were repaired and replastered.

HAMILTON AVENUE TERMINAL

A temporary heating system was installed for use at this terminal while work on the permanent thermostatically controlled steam blower unit systems was being carried on. The new system is expected to be in operation early in January 1935. A new boiler room was reconstructed; the boiler rebuilt and located in new boiler room.

Removal was made of old structure over the north and south ferry slips and reconstruction of these slips was completed. The building used as a waiting room was rebuilt. New fences and gates were erected, the gallows frame strengthened and a new complete electrical system installed. The terminal building was painted throughout.

ATLANTIC AVENUE TERMINAL

The building formerly used as a machine shop and boiler room, which was in an unsafe condition, was demolished. Replaced filling line on lay-up dock. This ferry line was discontinued on January 28, 1933 but the Pennsylvania Railroad Company operated boats out of this terminal on its Atlantic Avenue, Brooklyn-Exchange Place, Jersey City, Ferry.

ROCKAWAY AND BARREN ISLAND TERMINALS

Installed new turnstiles and erected new vehicle ticket booth at both terminals. Extensive repairs were made to decking.

EAST 134TH STREET TERMINAL

A new distribution panel, new lighting circuits and new electrical controller for the ferry bridge were installed.

EAST 86TH STREET TERMINAL AND WELFARE ISLAND TERMINAL

Construction of ticket booths, railings, fences and gates was completed at these terminals to safeguard the collection of fares.

DEPARTMENT OF PLANT AND STRUCTURES

PASSENGER TRAFFIC BY MONTHS—1934

| | St. George Whitell Street | St. George Street | 39th Street South | Hamilton Avenue | Astoria | College Point | Rockaway | Total |
|-----------------|---------------------------------|----------------------|----------------------|--------------------|---------|------------------|----------|------------|
| January | 1,665,623 | 66,009 | 11,605 | 46,692 | 54,931 | 90,807 | 8,704 | 1,944,371 |
| February | 1,393,584 | 50,126 | 6,046 | 38,710 | 45,013 | 45,876 | 5,938 | 1,585,293 |
| March | 1,745,915 | 65,464 | 11,332 | 53,028 | 54,407 | 77,580 | 9,845 | 2,017,571 |
| April | 1,830,441 | 78,956 | 15,276 | 50,760 | 64,868 | 134,054 | 18,960 | 2,193,315 |
| May | 1,935,726 | 89,135 | 13,236 | 51,927 | 74,661 | 164,325 | 37,756 | 2,366,766 |
| June | 1,946,517 | 96,875 | 16,652 | 51,549 | 68,964 | 190,391 | 111,059 | 2,482,007 |
| July | 2,064,117 | 113,002 | 16,197 | 50,987 | 66,401 | 242,774 | 235,146 | 2,788,624 |
| August | 1,990,013 | 102,424 | 15,025 | 52,383 | 60,651 | 237,331 | 132,884 | 2,590,711 |
| September | 1,772,876 | 89,258 | 12,833 | 44,661 | 55,772 | 190,744 | 49,696 | 2,215,840 |
| October | 1,788,881 | 73,247 | 13,181 | 46,485 | 54,876 | 147,515 | 14,343 | 2,138,528 |
| November | 1,664,869 | 66,386 | 10,688 | 40,825 | 52,365 | 126,003 | 10,392 | 1,971,528 |
| December | 1,725,127 | 60,119 | 10,484 | 39,800 | 49,783 | 105,097 | 7,096 | 1,997,506 |
| Totals | 21,523,689 | 951,001 | 152,555 | 567,807 | 702,692 | 1,752,497 | 641,819 | 26,292,060 |

VEHICULAR TRAFFIC BY MONTHS—1934

| | St. George Whitehall Street | St. George 39th Street | 39th Street South Street | Hamilton Avenue | Astoria | College Point | Rockaway | Total |
|-----------------|-----------------------------------|---------------------------|--------------------------------|--------------------|---------|------------------|----------|-----------|
| January | 54,391 | 16,338 | 2,741 | 1,542 | 6,915 | 62,682 | 2,582 | 147,131 |
| February | 37,177 | 10,699 | 2,600 | 1,382 | 4,553 | 30,681 | 1,357 | 88,449 |
| March | 53,420 | 14,883 | 2,923 | 1,646 | 6,346 | 54,680 | 2,746 | 136,644 |
| April | 66,145 | 18,808 | 2,849 | 1,676 | 7,706 | 86,451 | 5,894 | 189,529 |
| May | 74,939 | 22,125 | 2,996 | 1,849 | 11,735 | 104,052 | 11,203 | 228,899 |
| June | 81,514 | 23,479 | 3,046 | 1,724 | 12,473 | 116,094 | 24,655 | 262,985 |
| July | 89,042 | 26,633 | 2,713 | 1,713 | 12,060 | 139,458 | 42,911 | 314,530 |
| August | 86,595 | 26,106 | 2,694 | 1,709 | 12,170 | 138,839 | 29,520 | 297,633 |
| September | 79,047 | 23,826 | 2,629 | 1,624 | 13,010 | 120,191 | 14,142 | 254,469 |
| October | 70,260 | 20,412 | 2,984 | 1,700 | 12,559 | 102,721 | 4,639 | 215,275 |
| November | 64,673 | 18,646 | 2,569 | 1,500 | 10,770 | 86,982 | 3,173 | 188,313 |
| December | 63,248 | 16,219 | 2,694 | 1,372 | 6,986 | 74,642 | 2,046 | 167,207 |
| Totals | 820,451 | 238,174 | 33,438 | 19,437 | 117,283 | 1,117,473 | 144,808 | 2,491,064 |

DEPARTMENT OF PLANT AND STRUCTURES

PRIVATELY OWNED FERRIES

Across the Hudson River from Manhattan

| <i>From and To</i> | <i>To and From</i> | <i>Operating Company</i> |
|------------------------|---|-----------------------------------|
| Foot of Dyckman Street | Englewood Landing, N. J. (Palisades Park) | New York & Englewood Ferry Co. |
| West 130th Street | Edgewater, N. J. (Fort Lee) | Riverside & Fort Lee Ferry Co. |
| West 42nd Street | Weehawken, N. J. (West Shore R. R.) | N. Y. Central R. R. Co. |
| West 23rd Street | Weehawken, N. J. (Baldwin Ave.) | Electric Ferries, Inc. |
| West 23rd Street | Pavonia Ave., Jersey City (Erie R. R.) | Erie Railroad Co. |
| West 23rd Street | 14th Street, Hoboken, N. J. | Hoboken Ferry Co. |
| West 23rd Street | Hudson Place, Hoboken, N. J. (Lackawanna R. R.) | Hoboken Ferry Co. |
| West 22nd Street | Communipaw, N. J. (Jersey Central R. R.) | Central R. R. of N. J. |
| Christopher Street | Hudson Place, Hoboken, N. J. (Lackawanna R. R.) | Hoboken Ferry Co. |
| Chambers Street | Pavonia Avenue, Jersey City (Erie R. R.) | Erie Railroad Co. |
| Barclay Street | Hudson Place, Hoboken, N. J. (Lackawanna R. R.) | Hoboken Ferry Co. |
| Cortlandt Street | Weehawken, N. J. (West Shore R. R.) | N. Y. Central R. R. Co. |
| Cortlandt Street | Exchange Place, Jersey City (Pennsylvania R. R.) | Pennsylvania R. R. Co. |
| Liberty Street | Communipaw, N. J. (Jersey Central R. R.) | Central R. R. of N. J. |

Across the East River from Manhattan

| | | |
|------------------|-------------------------------------|--|
| East 34th Street | Flushing Street Long Island City | East 34th Street Vehicular Ferry Co. Inc. |
|------------------|-------------------------------------|--|

Across the East and Hudson Rivers from Brooklyn

| | | |
|-----------------------|---|------------------------|
| Foot of Atlantic Ave. | Exchange Place, Jersey City (Pennsylvania R. R.) | Pennsylvania R. R. Co. |
|-----------------------|---|------------------------|

ANNUAL REPORT—BUREAU OF FERRIES

PRIVATELY OWNED FERRIES

(Continued)

| <i>From and To</i> | <i>To and From</i> | <i>Operating Company</i> |
|------------------------------|----------------------|--|
| Staten Island Ferries | | |
| Port Richmond | Bergen Point, N. J. | Public Service Rwy. Co. |
| Holland Hook | Elizabethport, N. J. | N. J. and S. I. Ferry Co. |
| Tottenville | Perth Amboy, N. J. | S. I. R. T. R. R. Company |
| | (S. I. R. T. R. R.) | |
| St. George | Bay Ridge, Brooklyn | Brooklyn and Richmond Ferry Company |

UNITED STATES GOVERNMENT FERRIES

| | | |
|-----------------|------------------|---------------------------|
| Barge Office | Governors Island | United States Army |
| Battery Landing | Ellis Island | U. S. Department of Labor |
| Battery Landing | Liberty Island | United States Army |

HONOR ROLL

Rescues

- January 20 At about 1:20 a.m., when Ferryboat "Chelsea" was entering the slip at East 125th Street, New York, there was heard the cry "A woman overboard!" Captain John J. Gorman ordered ladders over side, and with the assistance of a police launch the crew of the ferryboat rescued the woman, who gave the name of May Silk.
- April 10 At 11:25 a.m., when the Ferryboat "President Roosevelt" was en route from St. George, S. I. to New York, and abreast of Governor's Island, one Edith Gray jumped overboard. Captain John P. Robinson ordered a boat lowered which was manned by Deckhands Frank Sypinewski and Matthew Garrick who rescued the woman.
- June 17 At 1:45 p.m., one Fred Schram, who had been asleep on the dock at College Point, fell overboard. He was rescued by Deckhands George Schweinfurth and Edward Jennings and Laborer Cornelius Driscoll.
- June 29 At 9:08 a.m., one Charles Ross attempted suicide by jumping off the dock at East 86th Street. He was rescued by Deckhands Dennis McMahon, George Wekmeister and Wm. C. Bryant and Marine Stokers Howard Teetor and Edward McNamara.
- July 9 At 4:20 a.m., Captain Charles Harrington of the Ferryboat "Melrose" with Deckhands Walter Dixon and John J. Finston rescued James Brown, one of the occupants of a speed boat which sank in Jamaica Bay, the other occupants of the boat being rescued by a Coast Guard boat.
- July 15 On the 6:50 p.m. trip of Ferryboat "Astoria" from Astoria, Captain Levi R. Brodhead picked up and towed to the 92nd Street Ferry Terminal a fishing boat named "Perseverance," which was disabled and drifting ashore off 87th Street with about forty passengers on board.

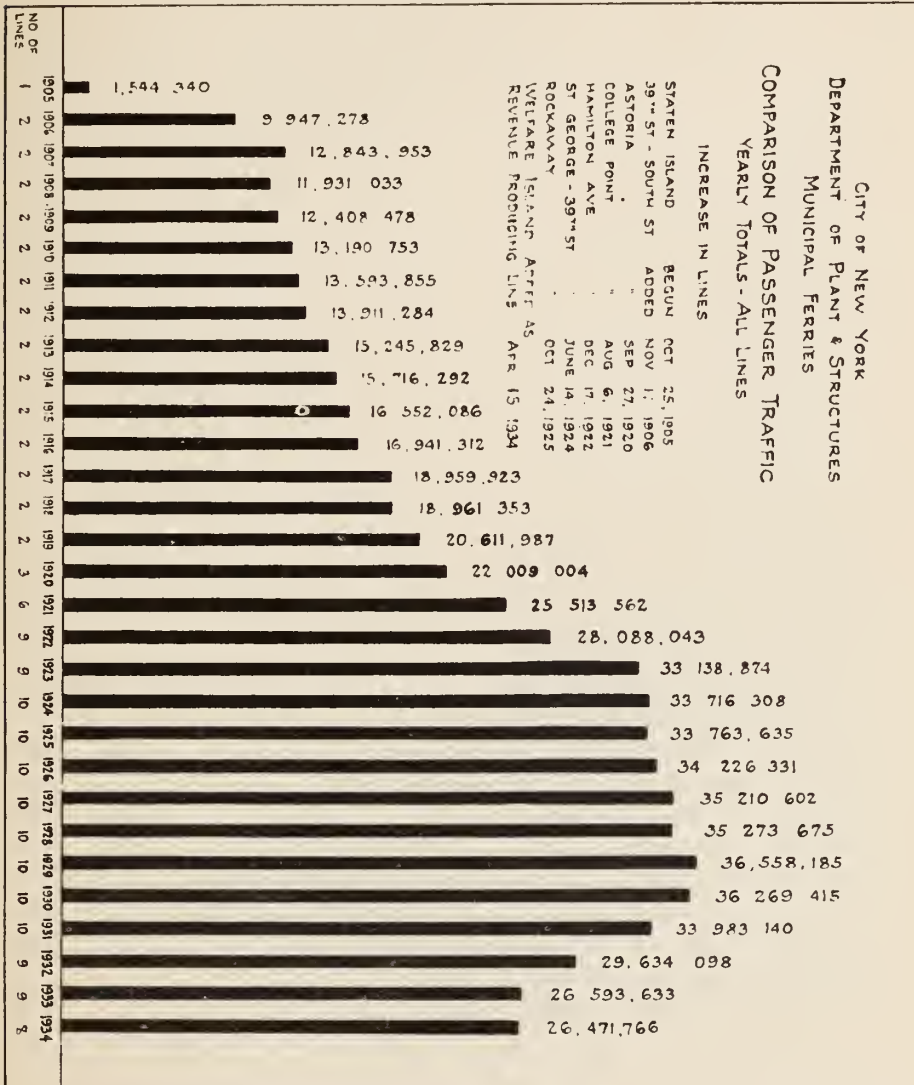
- August 15 At about 6:09 p.m., when the Ferryboat "Dongan Hills" was abreast of the Statue of Liberty, en route to Staten Island, one James Murphy jumped overboard. Captain John McCaffrey ordered a lifeboat lowered, which was manned by Mate John Finnerty and Deckhand Frederick Rhein, who succeeded in rescuing the man.
- August 24 On the 11 a.m. trip of the Ferryboat "Dongan Hills" from Staten Island to New York, one Ruth Hoag jumped overboard. Captain Edwin J. Clohessy, Jr. ordered a lifeboat lowered, which was manned by Deckhands George Allen and Daniel McCormick. While the lifeboat was moving in the direction of the woman, a policeman named Leon Boerum of the Third Precinct jumped overboard and held the woman up until she was taken aboard the lifeboat; in the meantime another woman named Marie Basset jumped overboard and was rescued by the crew of the lifeboat.
- September 22 At 3:00 a.m. Captain Robert R. Turnier with Deckhands James Tonkin and Thomas Wilson and Marine Stoker Felix Hanlon of the Ferryboat "Greenwich Village" rescued from drowning an unknown man who had fallen into the East River off East 134th Street, New York City.
- October 28 At about 2:15 p.m. Captain Sebastian Broere of the Ferryboat "Bushwick" observed in midstream off Clason Point Ferry Terminal a capsized sailboat with three men clinging to it. Captain Broere went to the assistance of the men and with his crew succeeded in rescuing one of the men, the other two having been picked up by a fishing boat.
- November 6 At about 4:20 a.m., while the Ferryboat "Chelsea" was tied up at 125th Street, Captain Patrick Golden heard cries for help and located one Water Wiltman struggling in the water. He ordered a lifeboat lowered and the man was rescued by Deckhands James Maher and Frank Villardi.

DEPARTMENT OF PLANT AND STRUCTURES

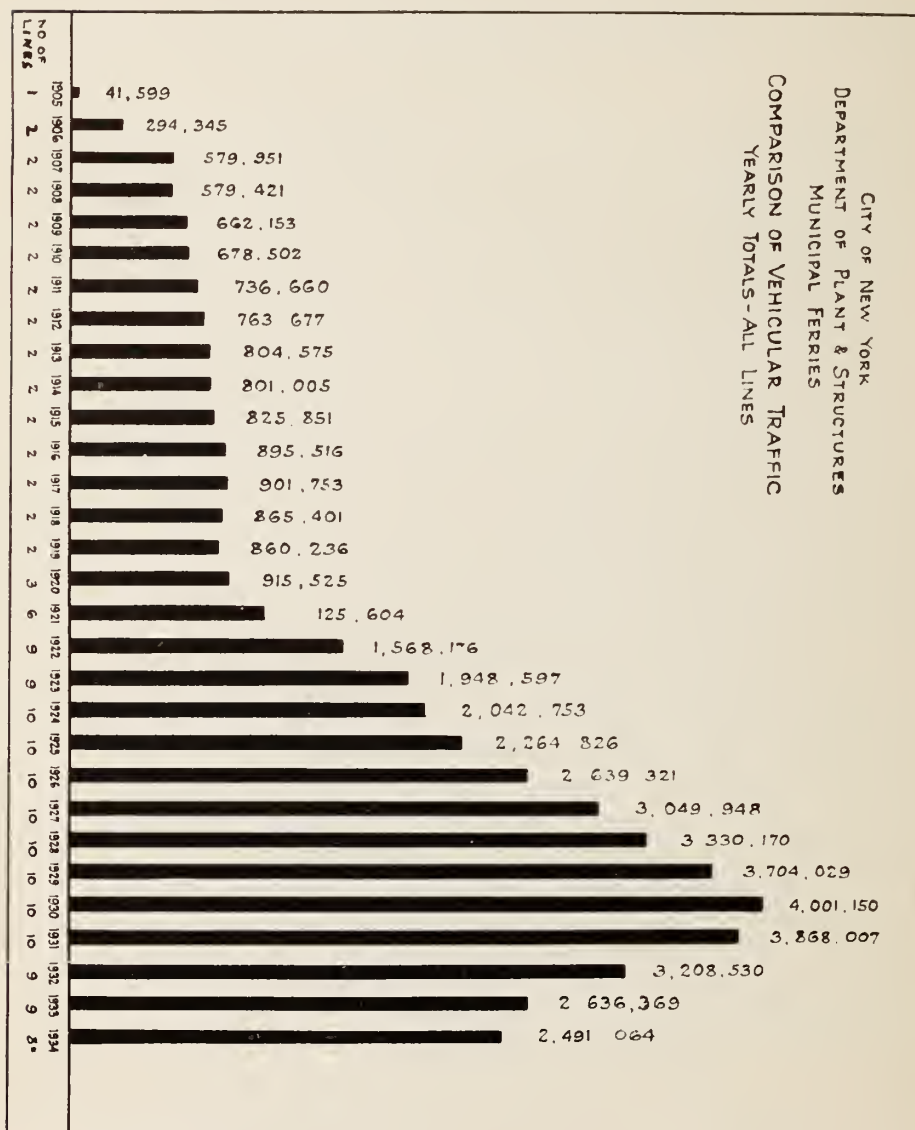
CITY OF NEW YORK DEPARTMENT OF PLANT & STRUCTURES MUNICIPAL FERRIES COMPARISON OF PASSENGER TRAFFIC YEARLY TOTALS - ALL LINES

INCREASE IN LINES

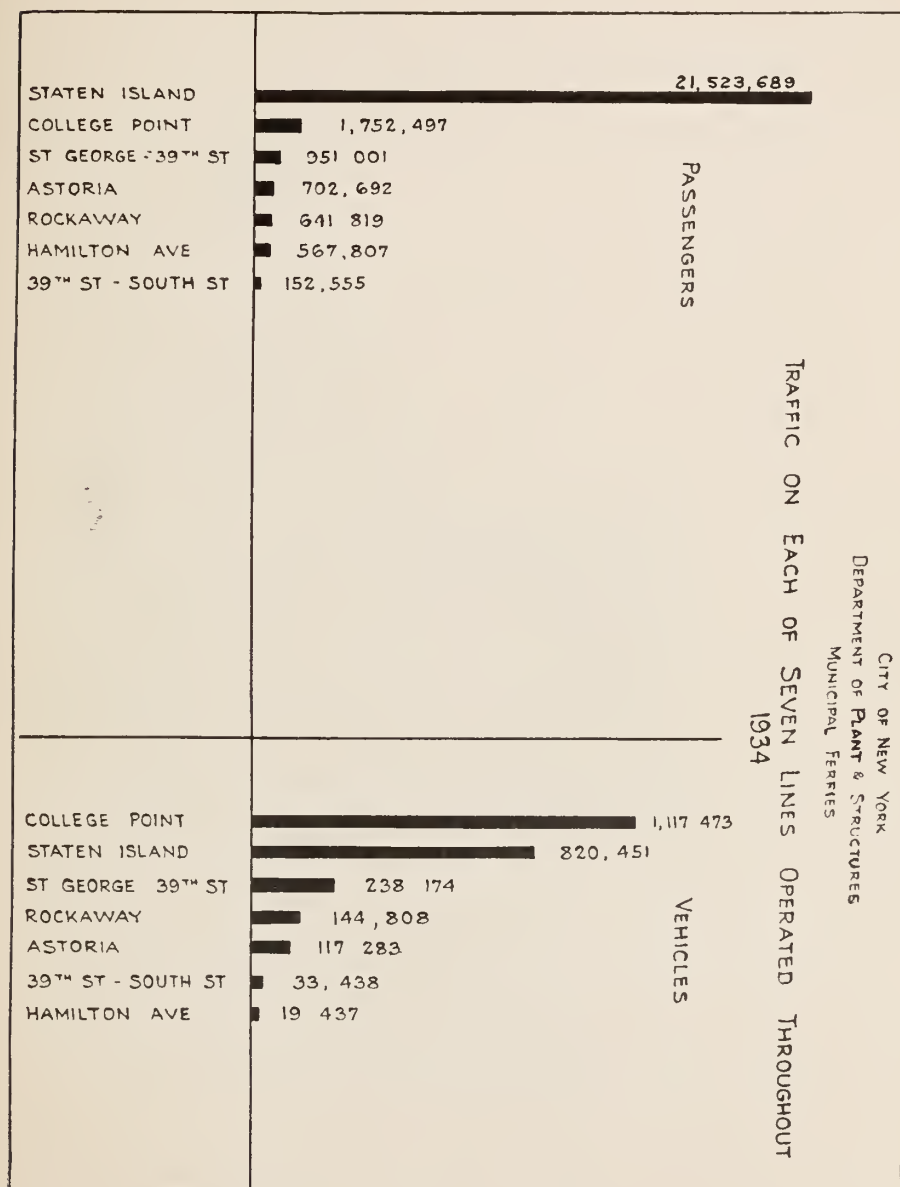
STATE ISLAND BEGUN OCT 25, 1905
39th ST - SOUTH ST ADDED NOV 11, 1906
ASTORIA SEP 27, 1920
COLLEGE POINT AUG 6, 1921
HAMILTON AVE DEC 17, 1922
ST GEORGE - 39th ST JUNE 14, 1924
ROCKAWAY OCT 24, 1925
WETMORE ISLAND ADDED AS REVENUE PRODUCING LINE APR 15, 1934

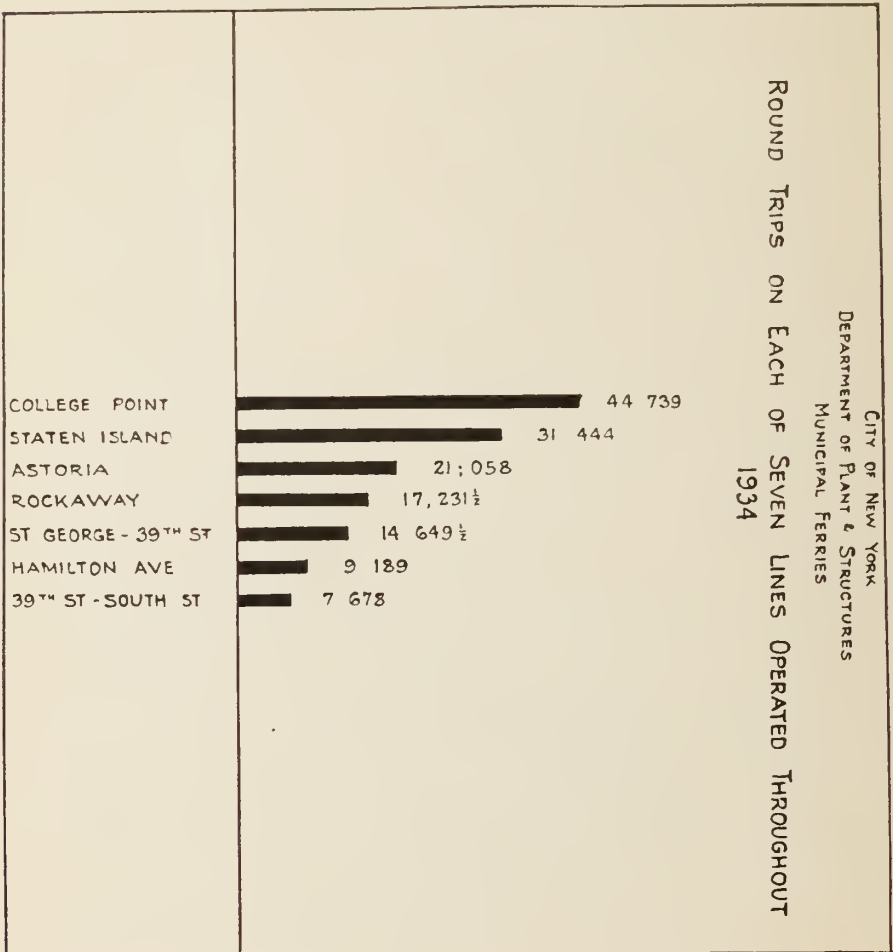


ANNUAL REPORT—BUREAU OF FERRIES

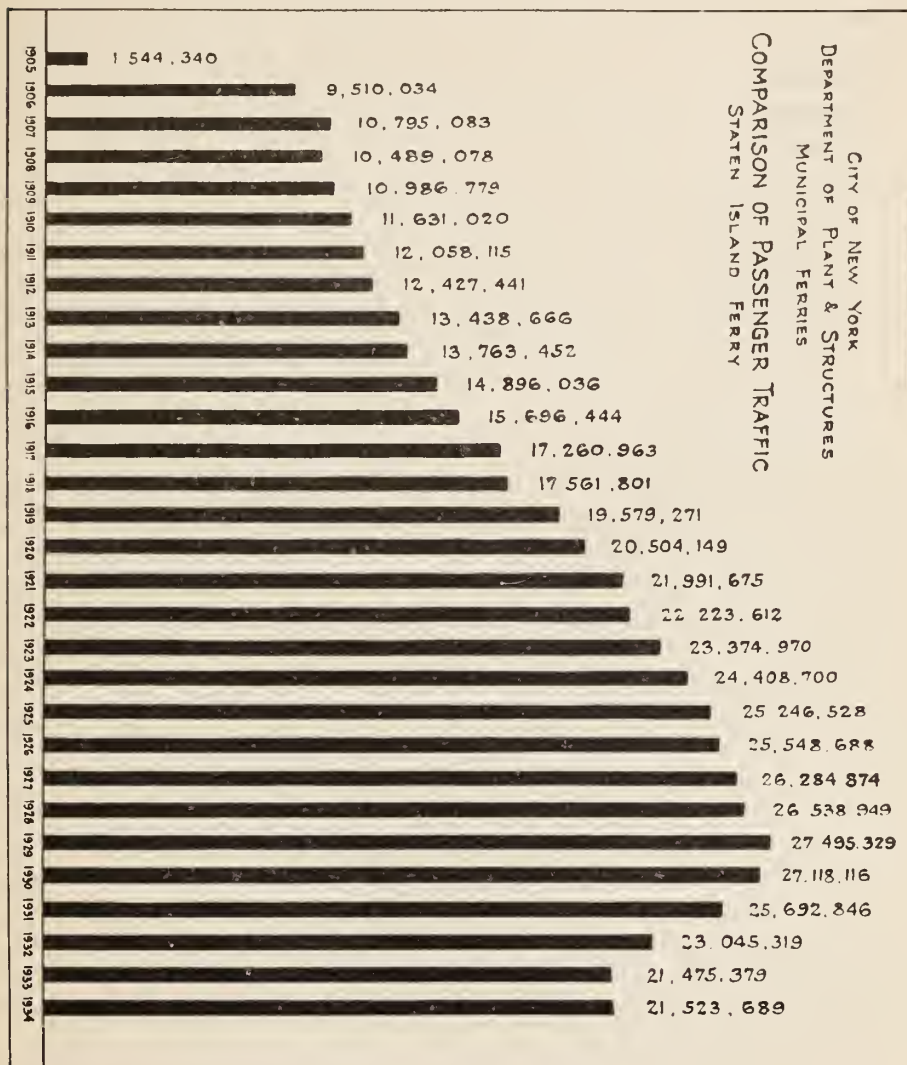


DEPARTMENT OF PLANT AND STRUCTURES

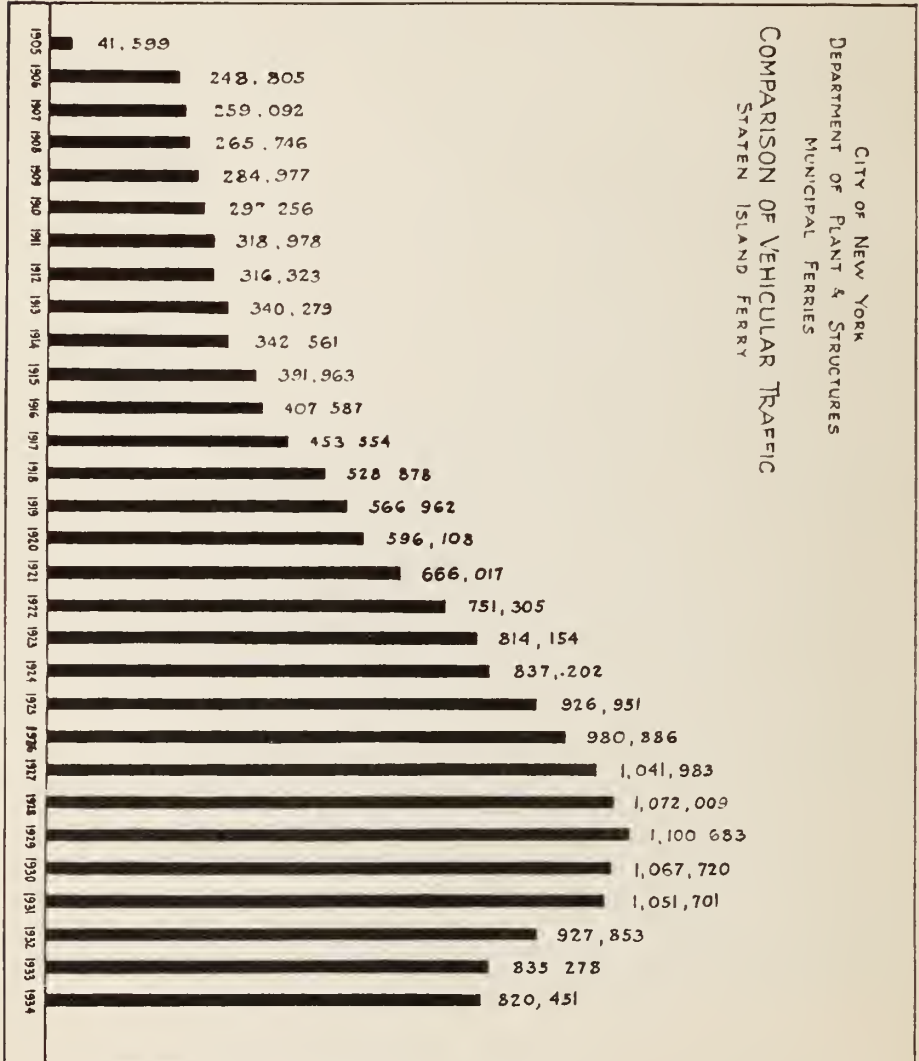




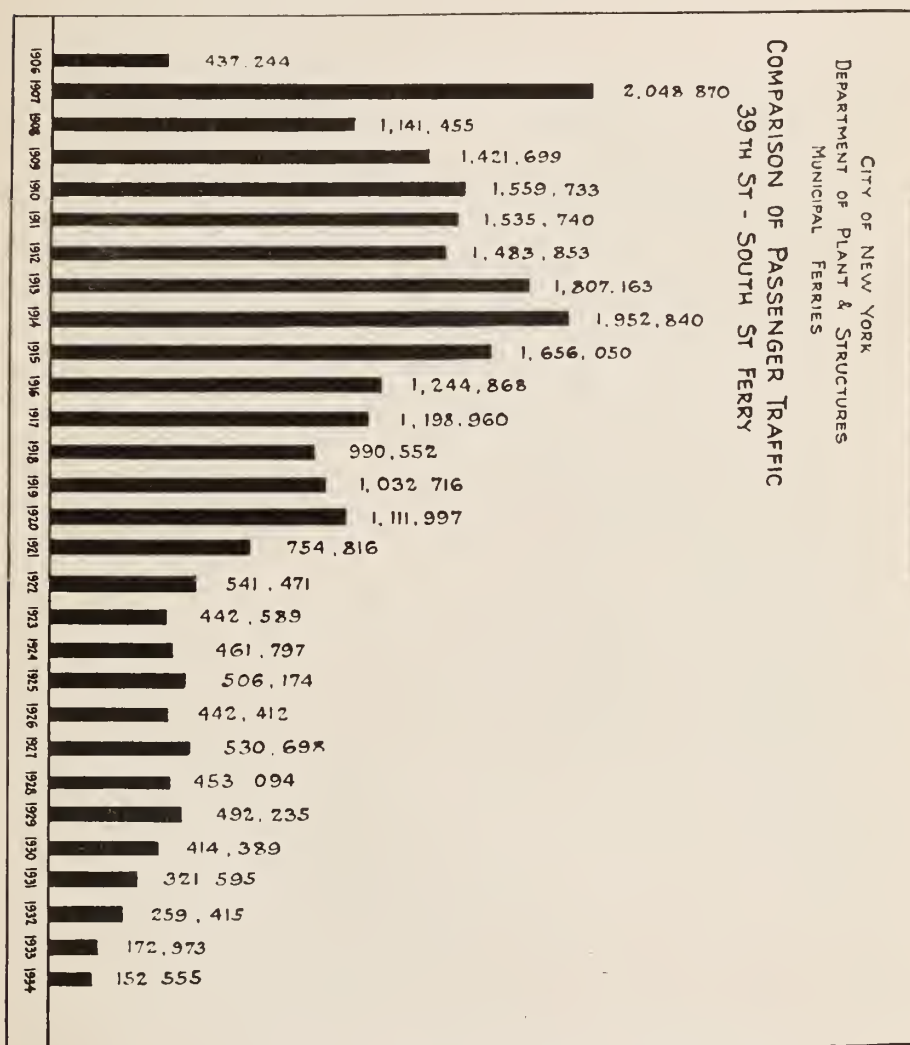
DEPARTMENT OF PLANT AND STRUCTURES



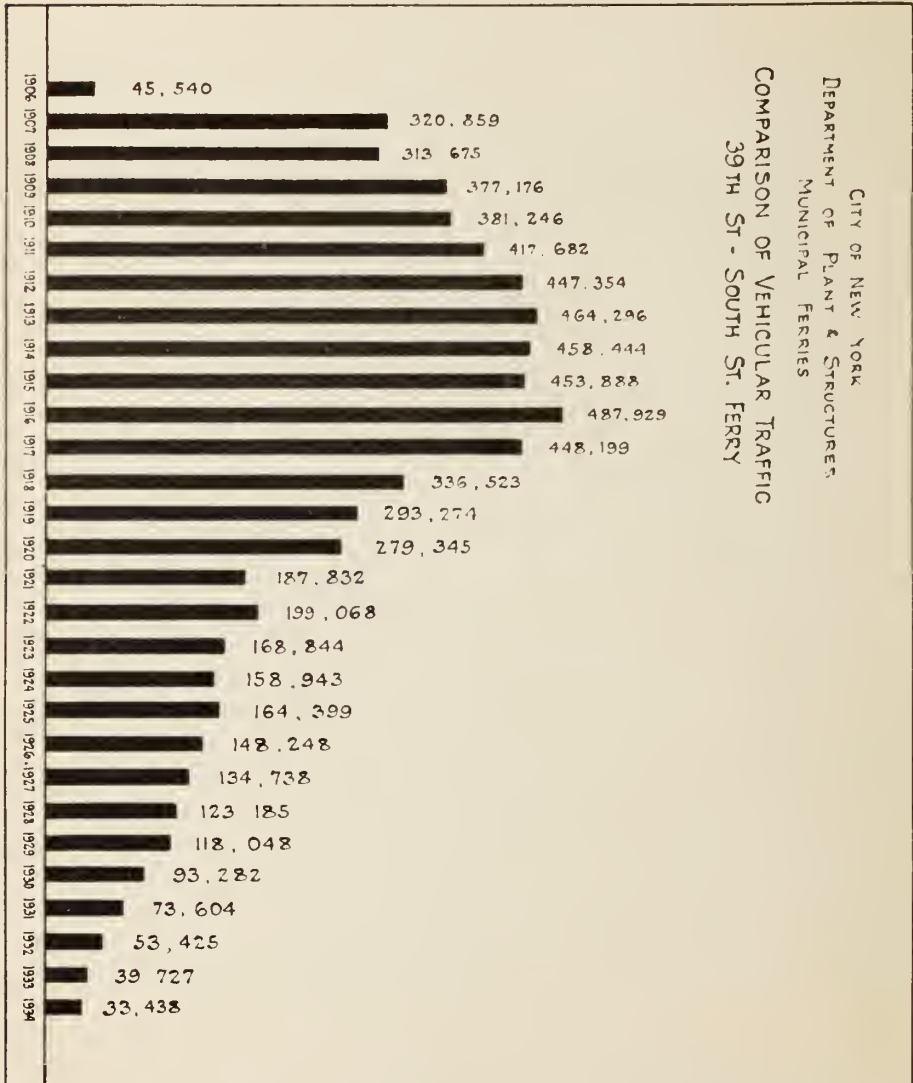
ANNUAL REPORT—BUREAU OF FERRIES



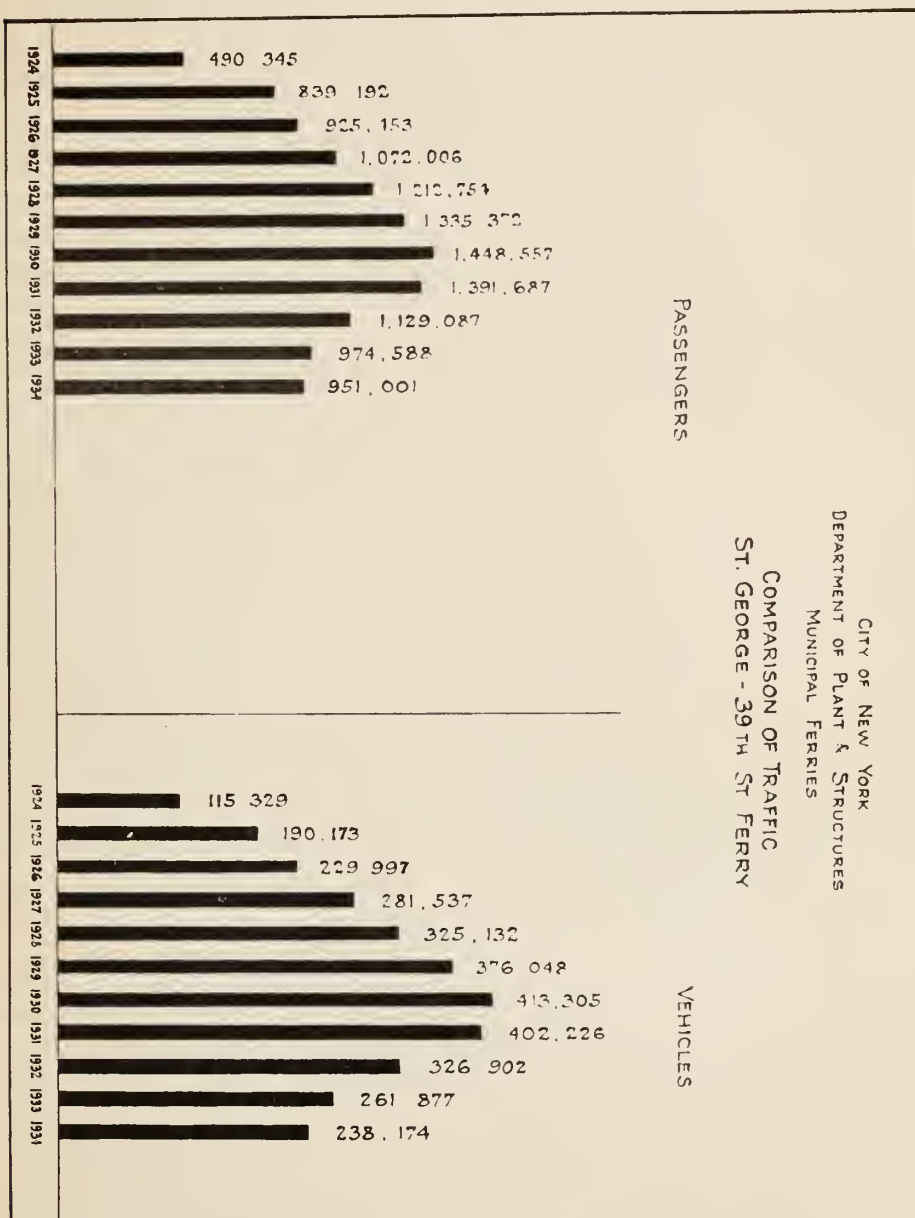
DEPARTMENT OF PLANT AND STRUCTURES



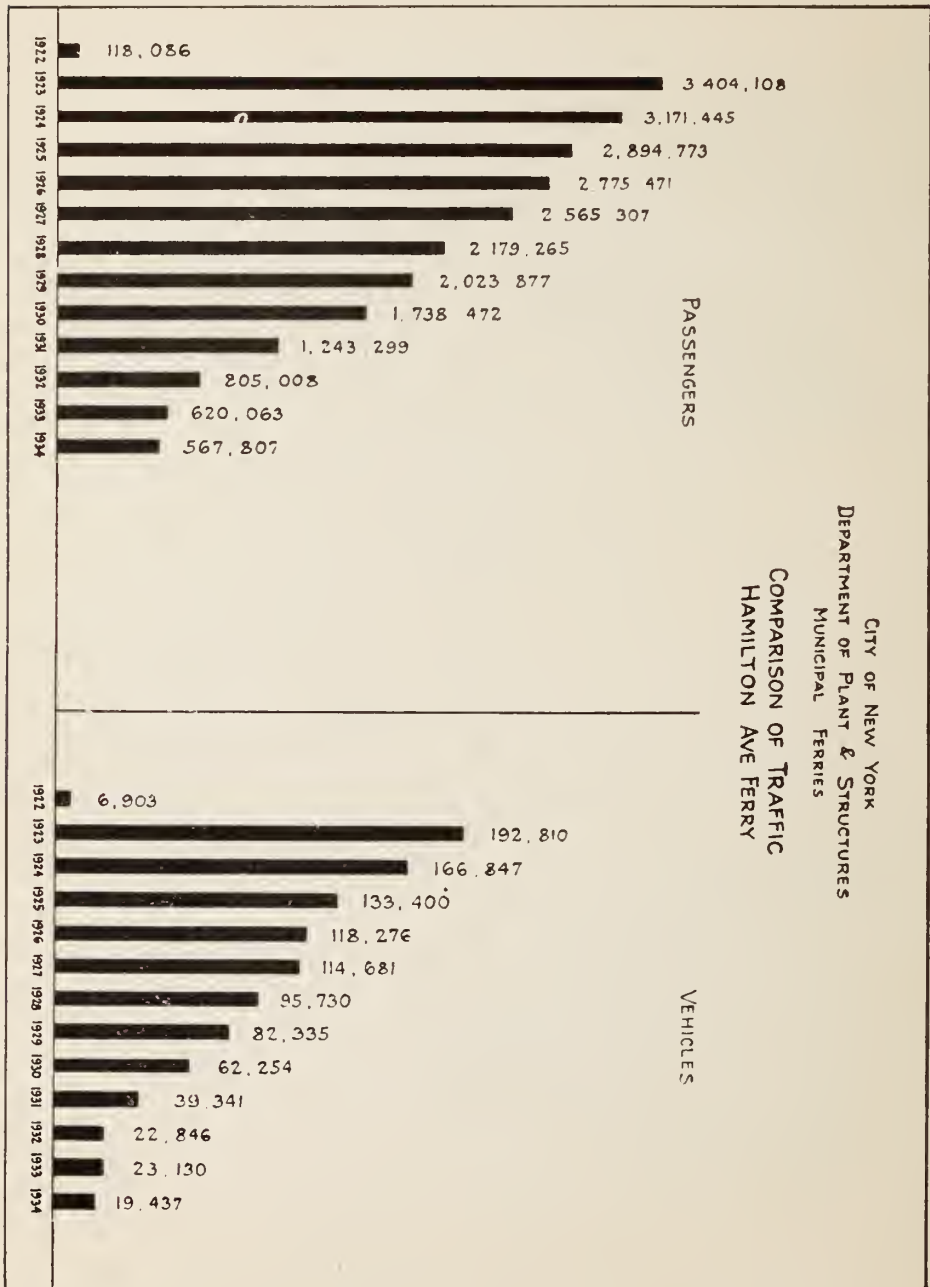
ANNUAL REPORT—BUREAU OF FERRIES



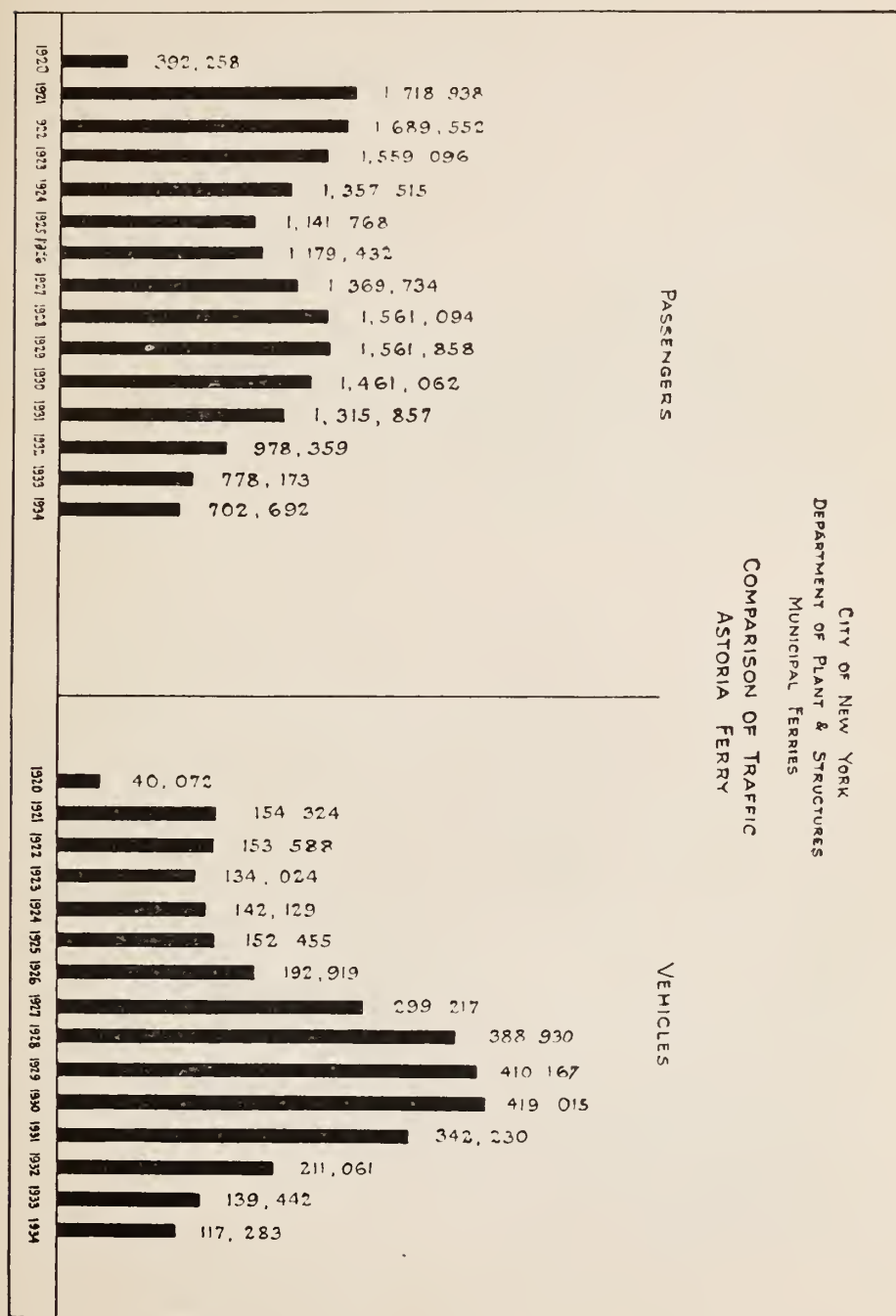
DEPARTMENT OF PLANT AND STRUCTURES



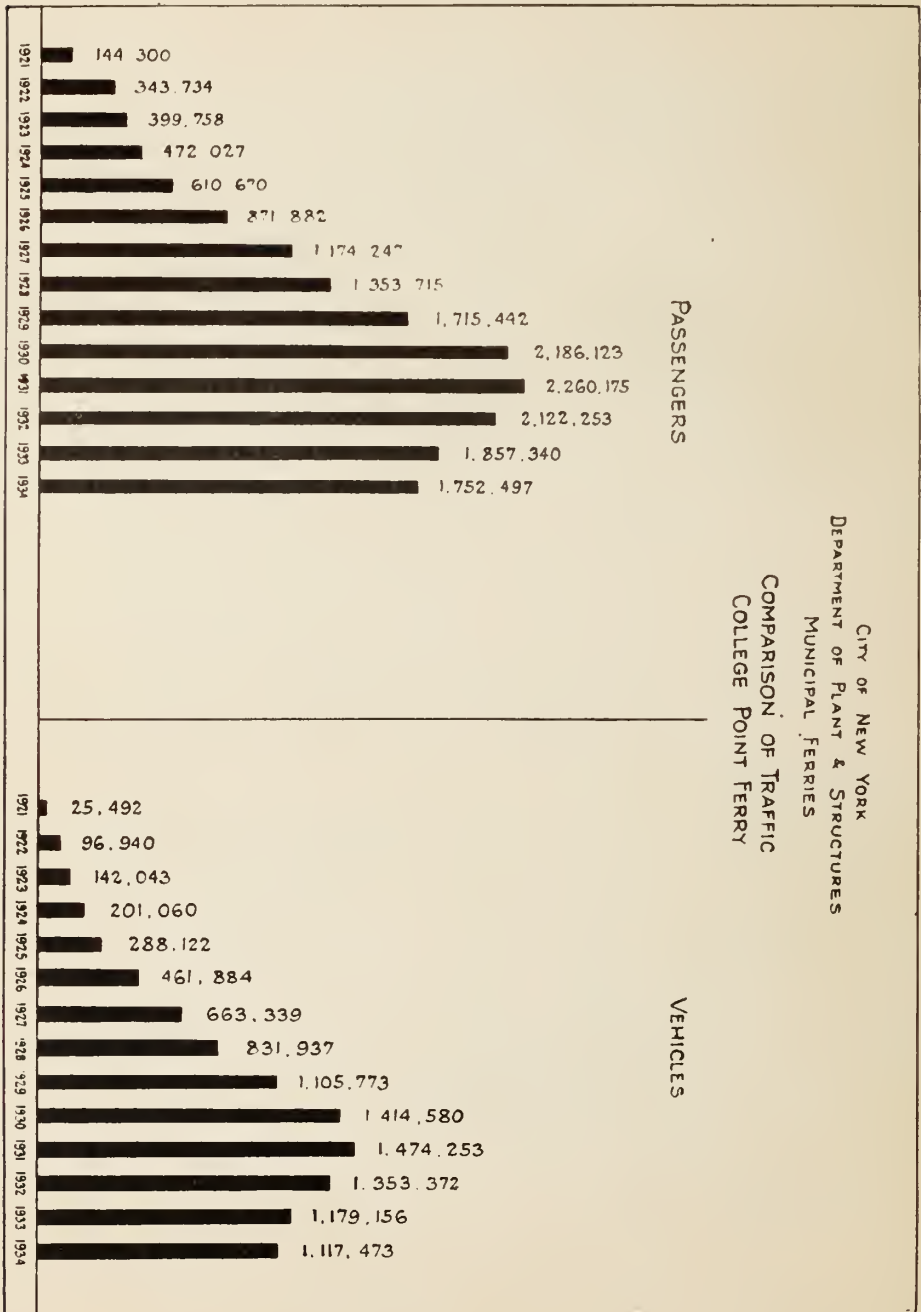
ANNUAL REPORT—BUREAU OF FERRIES



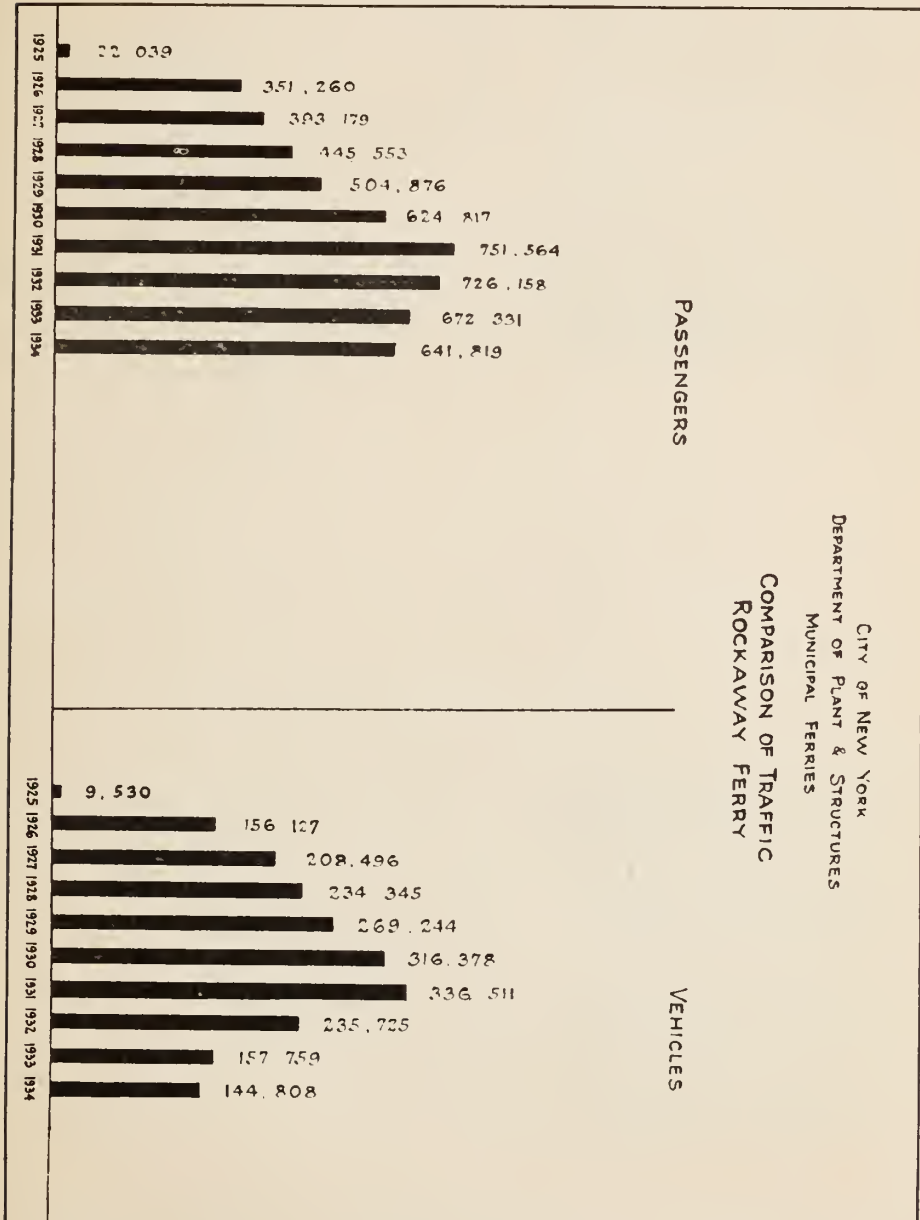
DEPARTMENT OF PLANT AND STRUCTURES



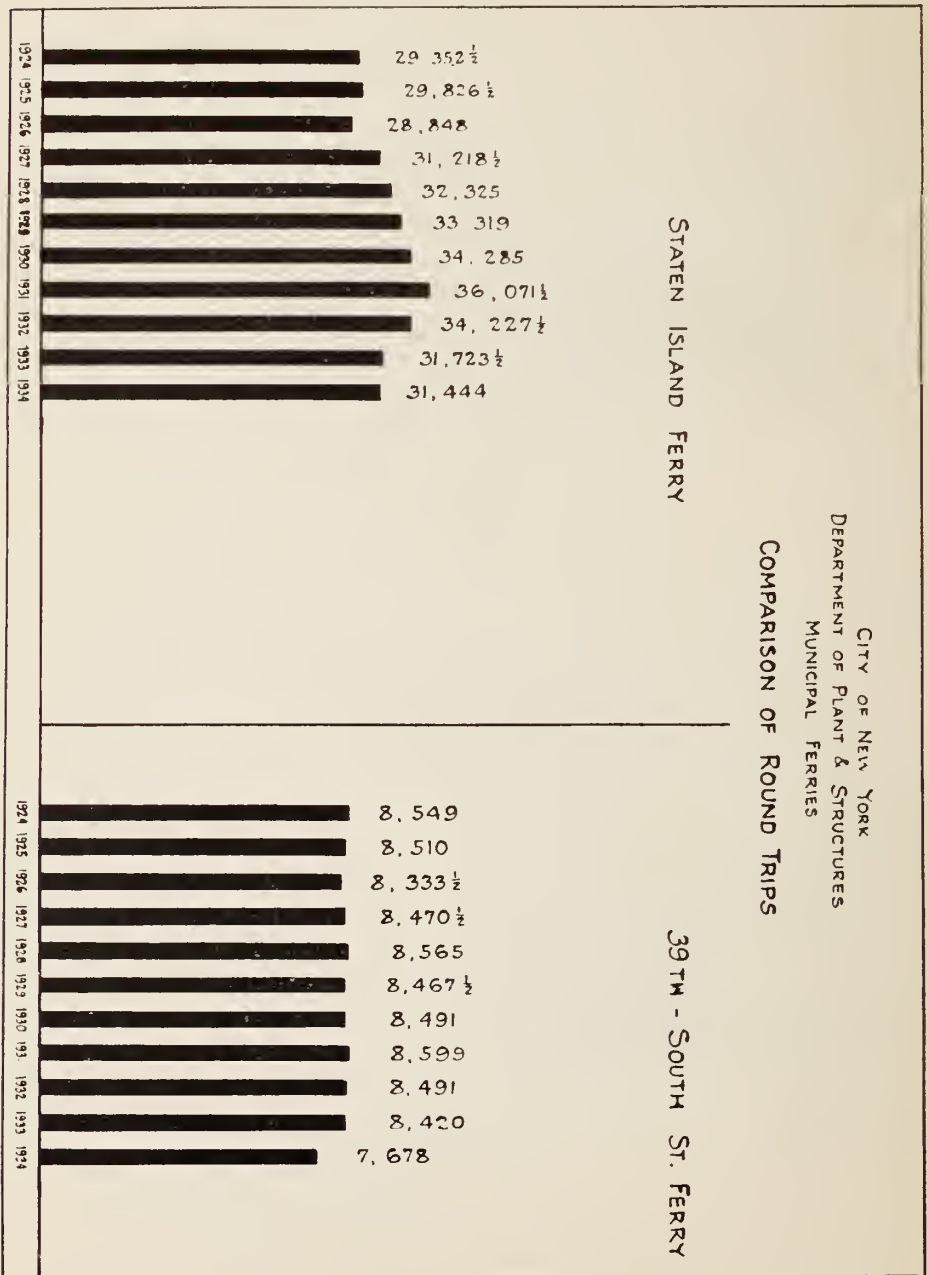
ANNUAL REPORT—BUREAU OF FERRIES



DEPARTMENT OF PLANT AND STRUCTURES



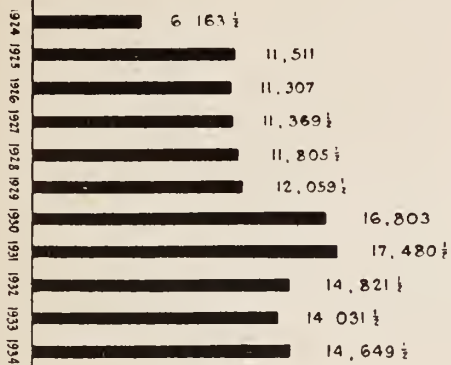
ANNUAL REPORT—BUREAU OF FERRIES



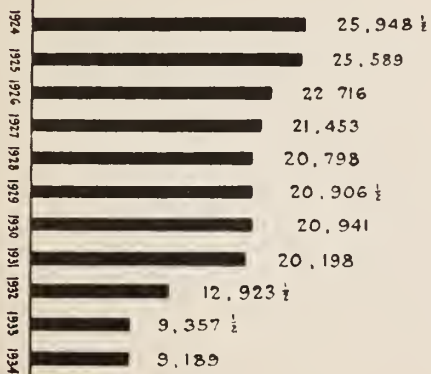
DEPARTMENT OF PLANT AND STRUCTURES

CITY OF NEW YORK DEPARTMENT OF PLANT & STRUCTURES MUNICIPAL FERRIES COMPARISON OF ROUND TRIPS

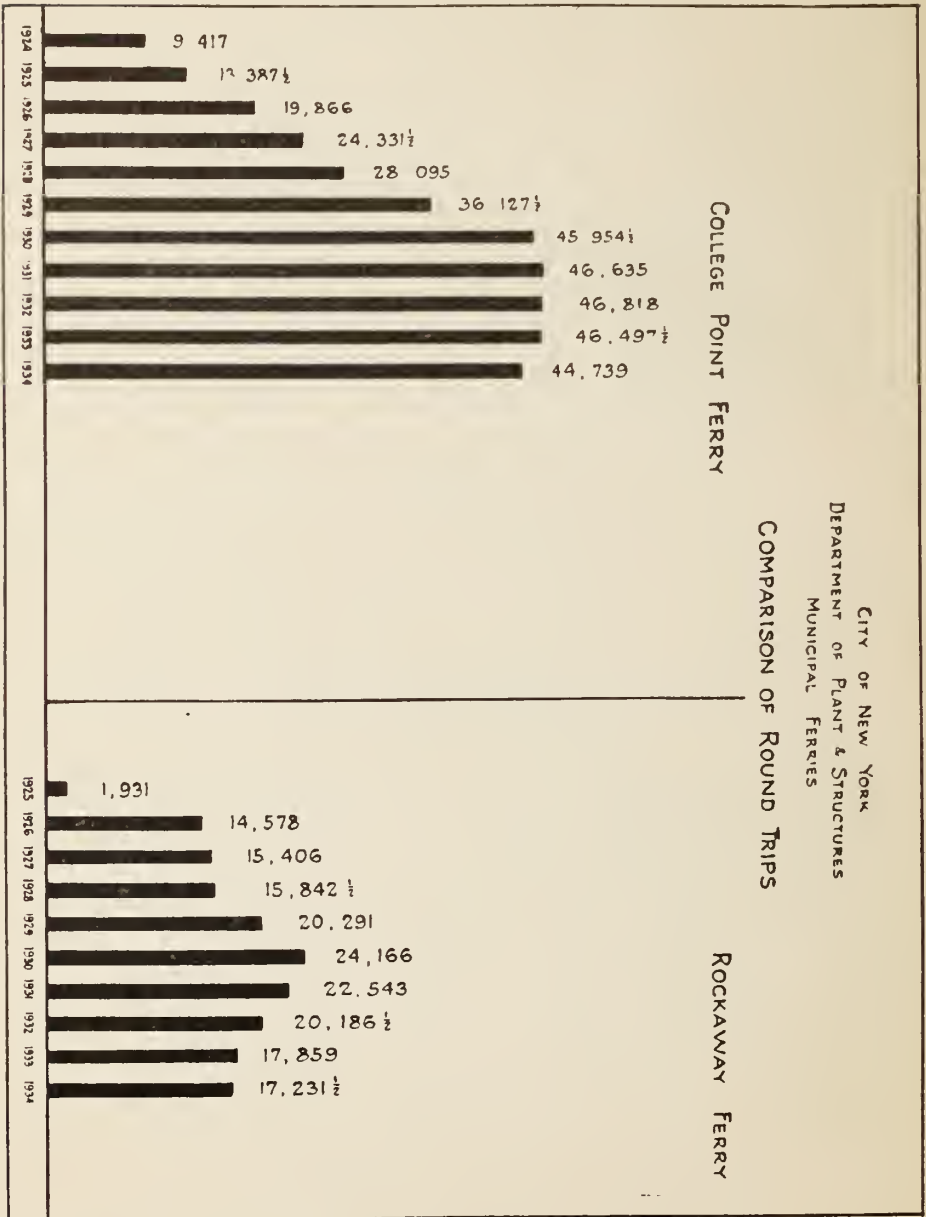
ST GEORGE - 39 TH ST FERRY



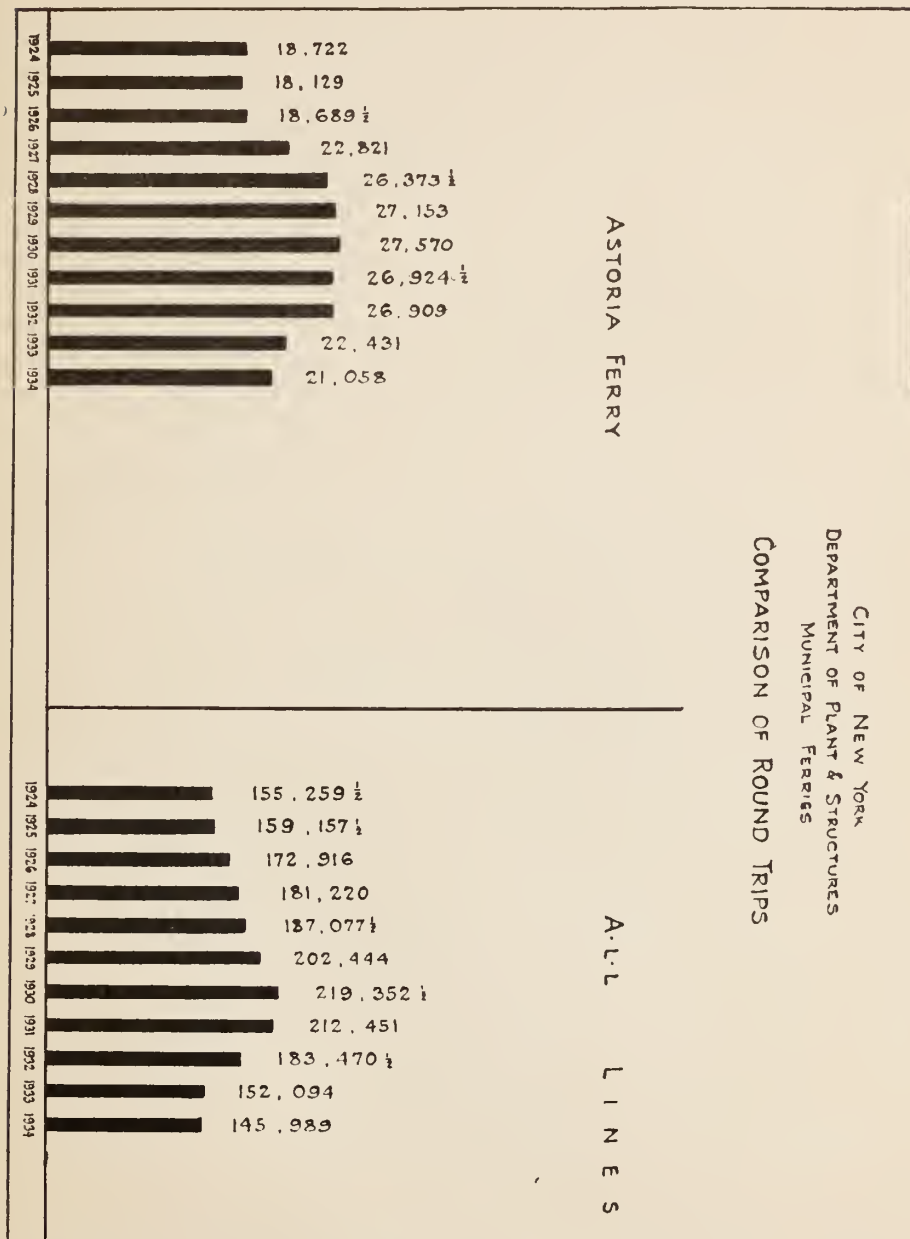
HAMILTON AVE FERRY



ANNUAL REPORT—BUREAU OF FERRIES



DEPARTMENT OF PLANT AND STRUCTURES



CENTRAL MOTOR REPAIR SHOP
AND
MUNICIPAL GARAGE

CENTRAL MOTOR REPAIR SHOP AND MUNICIPAL GARAGE

The Central Motor Repair Shop, a ten story building, with an approximate total floor area of 480,000 square feet, is located at 16th Street and Avenue C, New York City. The original intention in the construction of the building in 1924 had for its object under a centralized control the distribution of vehicles to all city departments and consolidation of the work for motor vehicle maintenance and repair. The plan as intended was never realized, with the result that there has been considerable unnecessary duplication of staff and tool equipment with no general standardized practice in the conduct of work done and with no systematic routine for periodic conditioning of the vehicle equipment to insure continuity of service. During the year 1934 the Department made a comprehensive study of prevalent conditions and developed a plan for "The Consolidation of Maintenance, Repair, Garaging and Operation of Motor Vehicles and Motor Vehicle Equipment of the City of New York," wherein control of distribution and maintenance of all motor vehicles would effect greater economy and larger budgetary savings.

The Department, mindful of the need for effecting improvements to existing conditions, has set about to develop a more efficient system of record and control, with improved methods for conditioning, maintaining and storing vehicles. The system as developed is gradually becoming standardized practice and it is expected that the report of accomplishment during 1935 will show, through a more efficient operating system, a vast improvement in conditions, as well as additional economy.

Maintenance at the building included during the year the repair and alteration made necessary for greater efficiency and safety in the working areas. The work included the repairs to the vitrified brick roof, painting parapet walls, renewing panels of concrete floor area and the construction on the first floor of a new partition wall at the pump room.

Although the Department of Sanitation occupies stores and maintains their equipment on part of the first floor, on the fourth, fifth and ninth floors,

DEPARTMENT OF PLANT AND STRUCTURES

and part of the eighth and tenth floors, the Department of Plant and Structures maintains and services the entire building.

The Central Motor Repair Shop made repairs to the cars of the following departments:

- Department of Finance
- Department of Water Supply, Gas and Electricity
- Department of Public Markets, Weights and Measures
- Department of Plant and Structures
- Board of City Record
- Register, New York County
- Board of Child Welfare
- Municipal Court



CENTRAL MOTOR REPAIR SHOP
16th Street, Avenue C, Borough of Manhattan

DEPARTMENT OF PLANT AND STRUCTURES

The number of repair jobs completed were :

| | |
|----------------------------|-------|
| Minor jobs | 1,399 |
| Major jobs | 253 |
| <hr/> | |
| Total jobs completed | 1,652 |

During the year 1934 the Central Motor Repair Shop furnished gasoline, oil, etc. to cars of the following departments :

Commissioner of Accounts
Board of Child Welfare
City Magistrates' Courts
Board of City Record
District Attorney, New York County
District Attorney, Kings County
Board of Estimate and Apportionment
Department of Finance
Department of Health
Department of Correction
Department of Public Markets, Weights and Measures
Department of Public Welfare
Department of Purchase
Municipal Court
Sheriff, New York County
Sheriff, Kings County
Board of Transportation
Police Department

Motor vehicles of the following departments were stored at the Central Motor Repair Shop :

Department of Plant and Structures
Board of Child Welfare
Board of City Record
Department of Finance
Department of Health
Department of Public Markets, Weights and Measures
Sheriff, New York County
Emergency Works Division

BUREAU OF TRANSPORTATION

BUREAU OF TRANSPORTATION

The report herewith submitted includes the history of motor omnibus operation for the year 1934, classified as follows:

1. *History of Motor Omnibus Operation*

2. *Scope of Work*

3. *Surveys Conducted*

re:

(a) Routes and Operating Schedules

(b) Revenues

(c) Insurance

(d) Accidents

(e) Inspections—Mechanical

Sanitary

Traffic Checks

Observations

Meter Readings

4. *Improvement in Service*

5. *Conclusion*

History of Motor Omnibus Operation

The year 1934 witnessed the 15th year of motor omnibus transportation provided the traveling public by the City of New York. Inaugurated in the year 1919 as the "Emergency Motor Bus System," by reason of the necessity for the City of New York to provide substitute transportation service due to the abandonment of crosstown surface car lines in lower Manhattan by the New York Railways Company, the abandonment of service by the Staten Island Midland Railways Company in 1920, and a strike on the Brooklyn Rapid Transit Trolley Lines in the same year, the development and expansion of motor omnibus transportation service can well be appreciated by a comparison of figures—20 buses constituted the original fleet in 1919, carry-

ing approximately *14,000,000 passengers* annually and in *1934* the fleet consisted of *731 buses* carrying approximately *117,000,000 passengers* per year. These figures are significant to bear in mind by reason of the indicated development of bus transportation and the greater development which will necessarily follow in *1935*.

To take additional figures in verification of this expansion, it is illuminating to note that in *1921* but *9 routes* and *77 buses* composed bus operation and supervision, while in *1934* this service and jurisdiction increased to *57 routes* and *731 buses*.

Scope of Work

The work which devolved upon this Department included the following:

- (a) Enforcement of franchise contract provisions.
- (b) Sanitary and mechanical inspections of buses.
- (c) Inspection and examination of fare box meters.
- (d) Traffic checks in connection with correct headways and maintenance of schedules.
- (e) Observation inspections.
- (f) Issuance of permits on authority from the Board of Estimate and Apportionment.
- (g) Investigation of citizens' complaints.
- (h) Revision of traffic schedules.
- (i) Submission of monthly report to the Board of Estimate and Apportionment.
- (j) Submission of monthly report to the Office of Comptroller indicating the number of passengers carried and gross amount of revenue to the City of New York.
- (k) General duties incident to complete supervision of motor omnibus transportation service.

The scope of work with which the Department was previously concerned included only the Boroughs of Manhattan and Queens, but due to a Board of Estimate and Apportionment Resolution of April 27th, the Boroughs of Brooklyn, Richmond and The Bronx were included through the necessity to "inspect on demand" the 1,251 additional buses included under long term franchise contracts, making a total of 1,982 buses.

Surveys Conducted

(a) Routes and Operating Schedules

Survey was made by Inspectors of franchised and non-franchised routes to determine compliance with terms of contract and maintenance of correct schedules.

(b) Revenue

In view of the revenue which accrues to the City of New York from the operation of omnibuses through authority of the Board of Estimate and Apportionment, particular vigilance was exercised to enforce the provisions of franchise contracts with reference to payment of revenue through the use and occupancy of the City streets. It is significant to note that, as a result of an intensive drive inaugurated on June 4, 1934 through written communications to all operators, within 5 days, \$37,280.17 had been paid into the City Treasury and in 17 days \$54,983.89 was received out of a total of \$60,658.12, leaving a balance due of \$5,164.23.

In 1933 the revenue which accrued to the City of New York from the operation of omnibuses amounted to \$445,013.80 compared to the increased revenue return for 1934, which amounted to approximately \$650,000.

The strict supervision which has been exercised in connection with delinquent payment of revenue will be continued through the inspection and examination of fare box meters, the compelled weekly written report from operators of fare meter readings and supplemental verification and examination by Inspectors of this Department.

DEPARTMENT OF PLANT AND STRUCTURES

(c) *Insurance*

On May 7, 1934 attention of this Department was directed to the fact that State Superintendent of Insurance by telegram had ordered the Consolidated Indemnity Company and its subsidiary Vehicle Underwriting Company to cease writing liability risks. Subsequently Supreme Court Justice Alfred Frankenthaler appointed a rehabilitator. Upon receipt of this information on May 9, 1934, all corporations operating under our supervision which had been covered by this Company were directed to file immediately with the Bureau of Motor Vehicles a new bond covering all buses owned and operated by them.

(d) *Accidents*

Inaugurated the making of weekly reports regarding bus accidents and issued orders to operators to immediately report all bus accidents by telephone, with supplemental written notification.

Installed the keeping of "Complaint Record," carrying information from date of inception of complaint to final disposition.

(e) *Inspections made*

| | |
|----------------------|--------|
| Mechanical | 2,758 |
| Sanitary | 5,248 |
| Traffic Checks | 1,006 |
| Observations | 515 |
| Meter Readings | 42,906 |

Improvement in Service

Due to the above studies and surveys, the termination of the year 1934 witnessed a decided improvement in service, resulting in increased efficiency, decrease in citizens' complaints, reduction of accidents to a minimum and no fatalities reported.

The vigilance observed in the administration of this Bureau since my appointment to office will be continued so that the Department may be fully equipped to meet the added responsibility devolving upon it through the need to supply an increasing traveling public with efficient and adequate transportation.

MUNICIPAL RADIO BROADCASTING STATION

“WNYC”

MUNICIPAL RADIO BROADCASTING STATION "WNYC"

The Municipal Radio Broadcasting Station "WNYC" presented the following programs to the radio audience:

Educational Broadcasts

Educational broadcasts were presented through the medium of "WNYC" Air College in which the following institutions cooperated: Board of Education, College of the City of New York, Long Island University, Brooklyn Children's Museum, Bronx Borough Wide Teachers' Association, Queensboro Public Library, Municipal Reference Library, Metropolitan Museum of Art, Young Men's Christian Association, Museum of the City of New York, American Museum of Natural History and the Central Museum of the Borough of Brooklyn. By means of this group of institutions, noted lecturers broadcast a variety of subjects, including Civics, English, Economics, History, Philosophy, French, Psychology, Law, Government and the Drama.

Health, Hygiene and Public Service

During the year 1934, many institutions and organizations active in health and public service broadcast over the Municipal Broadcasting Station as follows: New York Tuberculosis and Health Association, Bronx County Medical Society, Bureau of Industrial Hygiene, New York State Department of Labor, Women's City Club, League for Political Education, United Parents' Association, Association for Prevention of Cruelty to Animals, Oral Hygiene Committee, National Association of Cost Accounting and the Bureau of Internal Revenue. Ship News and Weather Reports were also broadcast.

Public Welfare

Public service information relative to the respective departmental administrations was broadcast through lectures sponsored by the Departments of Health, Police, Parks, Public Welfare, Tenement House, Licenses, Sanitation and Public Markets, Weights and Measures. Inter-departmental good will and public service contacts were maintained and extended by means of fea-

DEPARTMENT OF PLANT AND STRUCTURES

tures sponsored by the Departments of Correction, Public Welfare, Police, Fire, Public Markets, Weights and Measures, Sanitation, Finance, Water Supply, Gas and Electricity and the State Department of Motor Vehicles.

Police alarms for missing persons were broadcast daily, exclusive of Sundays and Holidays.

Concerts and musical features were also broadcast as follows: The Greenwich Sinfonietta, Park Department Band, Manhattan Band Concert, Brooklyn Symphony Orchestra, Phillips Hawaiian Ensemble, Municipal Concert Hour, Metropolitan String Trio, New York State Symphonic Band, Knickerbocker Little Symphony, University Chamber Trio, New York Civic Orchestra, University Concert Hour, Gotham Dance Orchestra, Brooklyn String Ensemble, New York Salon Orchestra, Stuyvesant String Quartet, Amsterdam String Trio, New York College of Music Concert, National Musical Benefit Society, University Symphony Orchestra, Capital String Quartet, Empire String Quartet, Metropolitan String Quartet, Neighborhood String Quartet, Amsterdam Trio, Brooklyn Trio, Gramercy Trio, Brooklyn School of Music Education, New York University Orchestra, and various High School orchestras.

Recitals were given by the following well-known concert and operatic artists: Frieda Hempel, Sigurd Nillson, Mary Stuart, Max Pantalaieff, Edwin Grasse, David Barnett, Juliette Mirova, Alan Seymour, Sandu Albu and others.

Public Address Functions

The amplifying system of "WNYC" was provided for 158 functions, among which were: Dedication of Bronx County Court House—June 15th; Dedication of LaGuardia Playground at Williamsburg Bridge Plaza—July 15th; Opening West Side Elevated Express Highway—August 30th; Dedication Chrystie and Forsythe Streets Playground—September 14th; Dedication Columbus Park—October 12th; Wishing Tree Ceremonies—November 4th; Thanksgiving Day Celebration; Christmas Day Celebration at Correction Hospital, Welfare Island; and Bryant Park Christmas Week festivities.

One hundred and fifty-eight public address events were recorded of which 132 were civic functions, and in addition 803 remote broadcasts were made. During this period the outstanding remote control events were the Symphony Concerts from the Brooklyn Museum and the American Museum of Natural History, the Sports Series from the Brooklyn Times Union, various playground dedication services, the Goldman Concerts from the Mall; and the Reception to the United States Fleet on June 1st.

Entertainment

Concerts were conducted at the Studio in the form of vocal and instrumental selections, popular dance orchestral combinations, and diversified musical offerings of more or less nationalistic origin.

During 1934 "WNYC" presented the following broadcasts: Metropolitan Amateur Athletic Union, School of Human Relations, Baseball Results and Sports, Boys' Club Contest, Round Table Legislation, Brooklyn Week for the Blind, New York State Industrial Campaign and Automobile Tours.

Weekly talks were also broadcast by the Citizens' Family Welfare Committee, The Marine Exhibition, New York State Motor Vehicle Department and the Post Office Department.

A review of the above indicates that the Municipal Radio Broadcasting Station "WNYC" for the year 1934 furnished to the radio audience instructive and entertaining programs in the form of vocal and instrumental selections, addresses on public health and home economics, information on City and State Governments, weather forecasts, tide tables, navigation reports, police alarms, and information relative to the administration and scope of work of the various Municipal Departments.

BUREAU OF GENERAL ADMINISTRATION

FINANCIAL SUMMARY—YEAR 1934

| | 1934 Budget Appropriations | Corporate Stock | Tax Notes | Brooklyn Bridge | Williamsburg Bridge Administration Funds | Public Works Administration Funds |
|---|-------------------------------|-----------------|--------------|-----------------|--|--------------------------------------|
| Unexpended balance—January 1, 1934... | | | | | | |
| Budget Appropriation for the year..... | \$6,560,411.56 | \$36,184.00 | \$410,818.99 | | | |
| Authorization during the year..... | | | | | | |
| Bridge Revenues during the year (Special Fund)..... | | 27,000.00 | 6,450.00 | | | \$456,957.00 |
| Refund for supplies and materials furnished other Departments — re- ceived during the year..... | 19,701.00 | | | \$184,432.81 | \$34,991.91 | |
| Transferred from Other Departments..... | 184,800.00 | | | | | |
| | | | | | | |
| | \$6,764,912.56 | \$63,184.00 | \$417,268.99 | \$184,432.81 | \$34,991.91 | \$456,957.00 |
| TRANSFERRED OUT | | | | | | |
| Transferred to Other Department..... | \$16,929.07 | | | | | |
| Payroll Accruals transferred to Finance Department..... | 125,000.00 | | | | | |
| Rescindments..... | \$29,036.07 | | | | | |
| Furlough Savings..... | 129,725.68 | | | | | |
| Total—Transferred..... | \$271,654.75 | \$29,036.07 | | | | |
| Net Funds Available..... | \$6,493,257.81 | \$34,147.93 | \$417,268.99 | \$184,432.81 | \$34,991.91 | \$456,957.00 |
| EXPENDITURES | | | | | | |
| Personal Services..... | \$4,755,849.78 | | \$11,393.82 | \$163,462.12 | \$26,098.23 | |
| Other than Personal Service..... | 1,271,728.45 | \$29,883.77 | 60,464.64 | | | |
| Total—Expenditures for Year..... | \$6,027,578.23 | \$29,883.77 | \$71,858.46 | \$163,462.12 | \$26,098.23 | |
| Unexpended Balance—Dec. 31, 1934.. | \$465,679.58 | \$4,264.16 | \$345,410.53 | \$20,970.69 | \$8,893.68 | \$456,957.00 |

FINANCIAL SUMMARY—YEAR 1934

(Continued)

| | 1934 Budget Appropriations | Corporate Stock | Tax Notes | Brooklyn Bridge | Williamsburg Bridge | Administration | Public Works Funds |
|---|-------------------------------|-----------------|--------------|-----------------|---------------------|----------------|-----------------------|
| OUTSTANDING OBLIGATIONS | | | | | | | |
| Reserve for Contracts..... | \$108,571.65 | | \$171,812.77 | | | | |
| Reserve for Open Market Orders..... | 114,326.48 | | | | | | |
| Reserve for Payrolls..... | 56,594.90 | | | \$1,195.25 | | | |
| Total—Reserves..... | \$279,493.03 | | \$171,812.77 | \$1,195.25 | | | |
| Unencumbered Balances—December 31, 1934..... | \$186,186.55 | \$4,264.16 | \$173,597.76 | \$19,775.44 | | \$8,893.68 | \$456,957.00 |

REVENUES

| INCLUDING RENTALS FROM CONCESSIONS | |
|------------------------------------|----------------|
| Staten Island Ferry..... | \$1,648,312.17 |
| St. George—39th Street Ferry..... | 199,121.28 |
| 39th Street Ferry..... | 33,259.74 |
| Hamilton Avenue Ferry..... | 40,152.09 |
| Astoria Ferry..... | 85,108.88 |
| Clason Point Ferry..... | 546,809.47 |
| Rockaway Ferry..... | 92,103.86 |
| Atlantic Avenue Ferry..... | 450.00 |
| Institutional Ferry..... | 19,470.60 |
| Greenpoint Avenue Ferry..... | 196.74 |
| Various Private Ferries..... | 472,585.18 |
| Brooklyn Bridge..... | 184,432.81 |
| Williamsburg Bridge..... | 34,991.91 |
| Labor and Material..... | 6,874.14 |
| Miscellaneous..... | 37,397.48 |
| Total..... | \$3,401,266.35 |

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